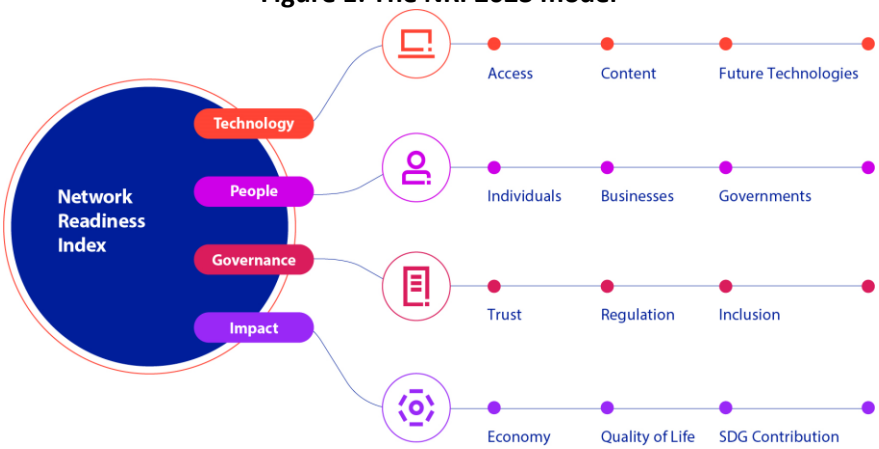
Albania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

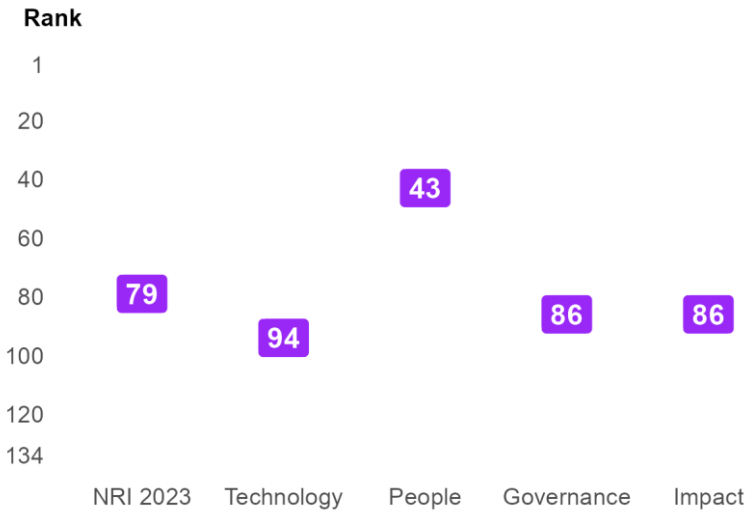
Figure 1: The NRI 2023 model



Global NRI position of Albania

Albania ranks 79th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Albania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Albania relate to Governments, Businesses and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Economy and Future Technologies sub-pillars.

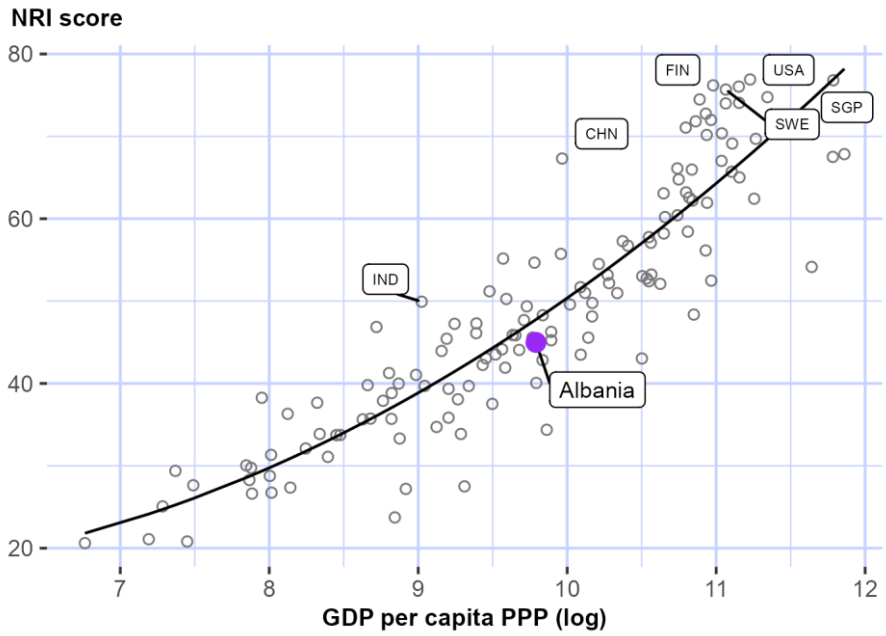
Table 1: Albania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	38	Trust	78
Businesses	49	Access	80
Quality of Life	52	Content	95
Individuals	65	Inclusion	104
Regulation	66	Economy	118
SDG Contribution	69	Future Technologies	121

NRI score and income

Figure 3 shows the position of Albania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Albania is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Albania belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Albania is ranked 25th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: People. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Businesses, Governments, Regulation and Quality of Life.

Europe

Albania is ranked 40th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Albania against its income group and region, overall and by pillar

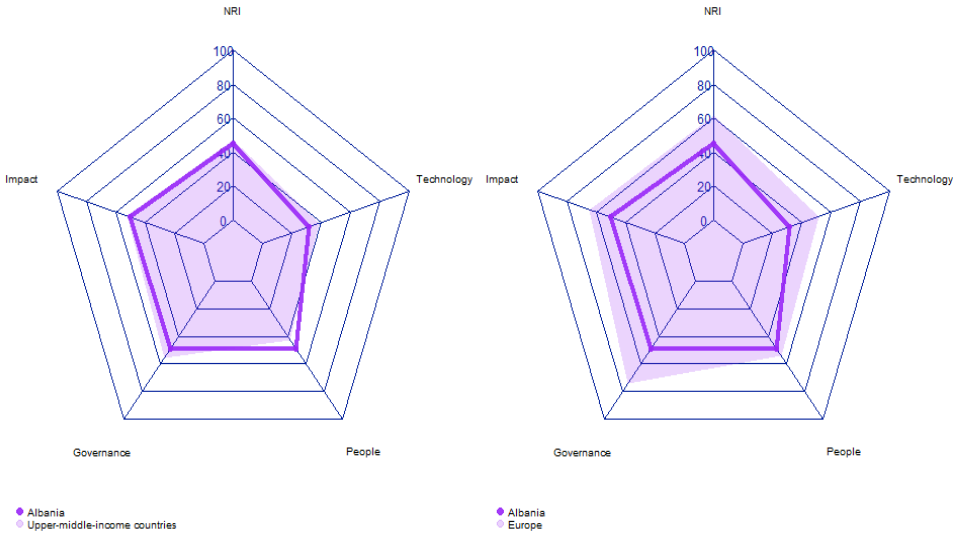


Table 2: Albania scores vs. averages of its income group and region, overall and by pillar

Dimension	Albania	Upper-middle-income countries	Europe
NRI	44.98	47.35	61.25
Technology	31.64	38.48	51.90
People	49.33	42.59	54.16
Governance	48.85	55.90	74.33
Impact	50.11	52.43	64.61

Strongest and weakest indicators

The indicators where Albania performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 4.2.3 Income inequality, and 3.3.1 E-Participation (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 3.3.2 Socioeconomic gap in use of digital payments, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Albania

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	17	4.1.1 High-tech and medium-high-tech manufacturing	99
4.2.3 Income inequality	19	1.3.1 Adoption of emerging technologies	117
3.3.1 E-Participation	22	3.3.5 Rural gap in use of digital payments	119
2.1.5 Adult literacy rate	26	3.3.2 Socioeconomic gap in use of digital payments	125
2.3.1 Government online services	33	4.1.2 High-tech exports	128
4.2.4 Healthy life expectancy at birth	34		
4.3.3 SDG 5: Women's economic opportunity	36		
3.2.2 ICT regulatory environment	45		
3.2.5 Privacy protection by law content	47		
1.2.2 Internet domain registrations	55		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Albania

Network Readiness Index — Rank: 79 (out of 134) — Score: 44.98

Pillar/sub-pillar	Rank	Score
A. Technology pillar	94	31.64
1st sub-pillar: Access	80	60.04
2nd sub-pillar: Content	95	17.37
3rd sub-pillar: Future Technologies	121	17.50
B. People pillar	43	49.33
1st sub-pillar: Individuals	65	47.47
2nd sub-pillar: Businesses	49	51.78
3rd sub-pillar: Governments	38	48.72

Pillar/sub-pillar	Rank	Score
C. Governance pillar	86	48.85
1st sub-pillar: Trust	78	36.45
2nd sub-pillar: Regulation	66	65.84
3rd sub-pillar: Inclusion	104	44.27
D. Impact pillar	86	50.11
1st sub-pillar: Economy	118	14.36
2nd sub-pillar: Quality of Life	52	73.00
3rd sub-pillar: SDG Contribution	69	62.98

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	94	31.64	
1st sub-pillar: Access	80	60.04	
1.1.1 Mobile tariffs	88	49.09	
1.1.2 Handset prices	67	46.46	
1.1.3 FTTH/building Internet subscriptions	62	29.72	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	106	63.04	
1.1.6 Internet access in schools	44	72.27	
2nd sub-pillar: Content	95	17.37	
1.2.1 GitHub commits	65	7.15	
1.2.2 Internet domain registrations	55	5.62	•
1.2.3 Mobile apps development	95	55.88	
1.2.4 AI scientific publications	108	0.84	
3rd sub-pillar: Future Technologies	121	17.50	
1.3.1 Adoption of emerging technologies	117	19.18	○
1.3.2 Investment in emerging technologies	117	21.75	

Indicator	Rank	Score	
C. Governance pillar	86	48.85	
1st sub-pillar: Trust	78	36.45	
3.1.1 Secure Internet servers	66	54.14	
3.1.2 Cybersecurity	87	63.69	
3.1.3 Online access to financial account	113	8.62	
3.1.4 Internet shopping	70	19.36	
2nd sub-pillar: Regulation	66	65.84	
3.2.1 Regulatory quality	59	53.96	
3.2.2 ICT regulatory environment	45	87.06	•
3.2.3 Regulation of emerging technologies	53	49.09	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	47	72.40	•
3rd sub-pillar: Inclusion	104	44.27	
3.3.1 E-Participation	22	75.59	•
3.3.2 Socioeconomic gap in use of digital payments	125	32.57	○
3.3.3 Availability of local online content	119	26.20	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	86	11.57	
B. People pillar	43	49.33	
1st sub-pillar: Individuals	65	47.47	
2.1.1 Mobile broadband internet traffic within the country	92	3.06	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	84	52.49	
2.1.4 Tertiary enrollment	57	36.45	
2.1.5 Adult literacy rate	26	97.88	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	49	51.78	
2.2.1 Firms with website	51	58.11	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	76	25.43	
2.2.4 Annual investment in telecommunication services	104	71.81	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	38	48.72	
2.3.1 Government online services	33	79.91	●
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	82	32.43	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	65	67.21	
3.3.5 Rural gap in use of digital payments	119	19.80	○
D. Impact pillar	86	50.11	
1st sub-pillar: Economy	118	14.36	
4.1.1 High-tech and medium-high-tech manufacturing	99	4.53	○
4.1.2 High-tech exports	128	0.27	○
4.1.3 PCT patent applications	64	3.15	
4.1.4 Domestic market size	107	37.42	
4.1.5 Prevalence of gig economy	100	26.74	
4.1.6 ICT services exports	64	14.03	
2nd sub-pillar: Quality of Life	52	73.00	
4.2.1 Happiness	88	53.19	
4.2.2 Freedom to make life choices	69	71.18	
4.2.3 Income inequality	19	84.42	●
4.2.4 Healthy life expectancy at birth	34	83.19	●
3rd sub-pillar: SDG Contribution	69	62.98	
4.3.1 SDG 3: Good Health and Well-Being	93	55.55	
4.3.2 SDG 4: Quality Education	53	34.98	
4.3.3 SDG 5: Women's economic opportunity	36	87.61	●
4.3.4 SDG 7: Affordable and Clean Energy	17	81.86	●
4.3.5 SDG 11: Sustainable Cities and Communities	83	54.88	

NOTE: ● a strength and ○ a weakness.

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Algeria

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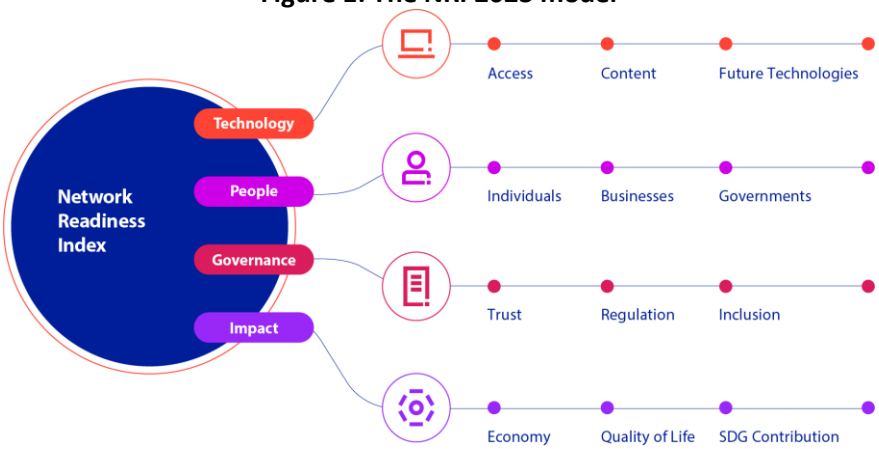
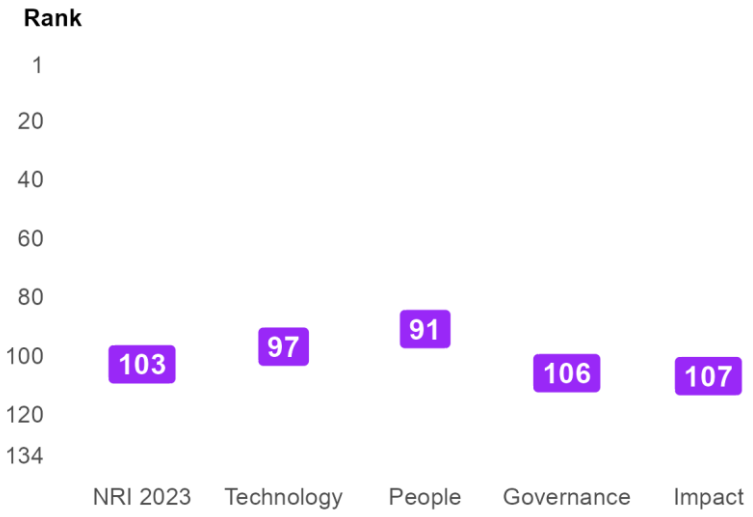
Figure 1: The NRI 2023 model



Global NRI position of Algeria

Algeria ranks 103rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Algeria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Algeria relate to Individuals, Economy and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Businesses and Trust sub-pillars.

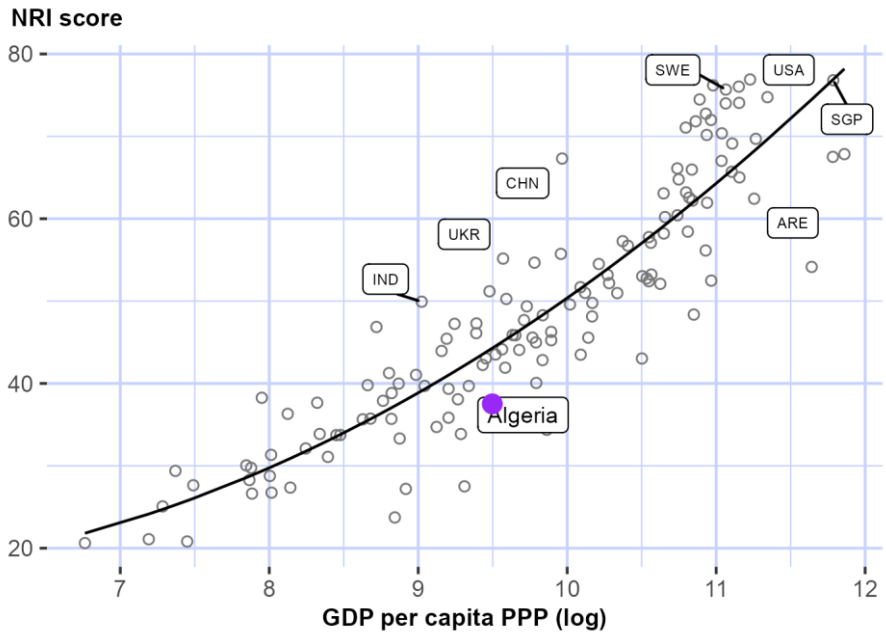
Table 1: Algeria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	62	Inclusion	98
Economy	90	Access	101
Future Technologies	91	Quality of Life	102
Content	92	SDG Contribution	106
Governments	92	Businesses	111
Regulation	96	Trust	117

NRI score and income

Figure 3 shows the position of Algeria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Algeria is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Algeria belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Algeria is ranked 23rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: People. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Content, Individuals, Governments, Regulation and Inclusion.

Arab States

Algeria is ranked 12th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Algeria against its income group and region, overall and by pillar

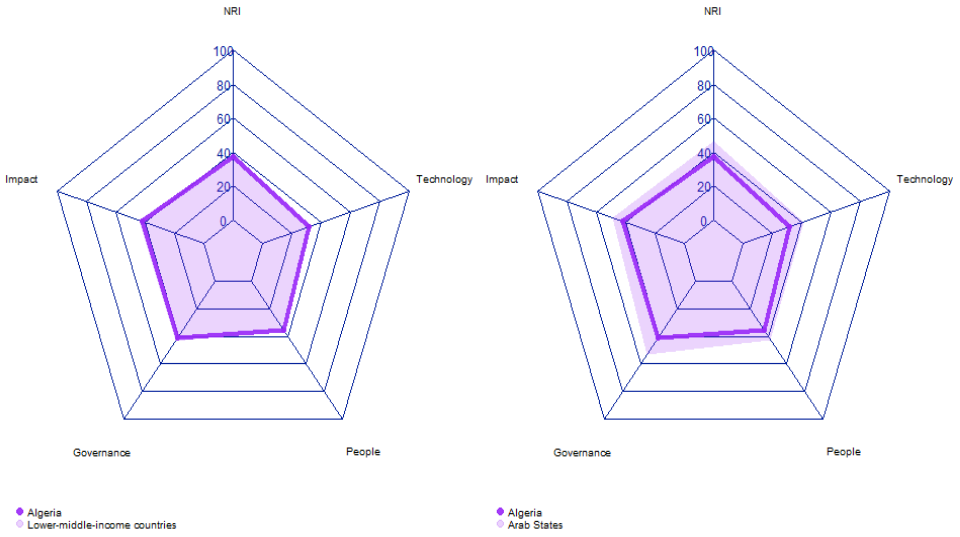


Table 2: Algeria scores vs. averages of its income group and region, overall and by pillar

Dimension	Algeria	Lower-middle-income countries	Arab States
NRI	37.52	38.41	46.59
Technology	31.45	32.12	41.17
People	35.63	34.38	42.66
Governance	41.18	43.27	53.45
Impact	41.82	43.89	49.08

Strongest and weakest indicators

The indicators where Algeria performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 1.3.4 Computer software spending, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Algeria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	74
3.3.5 Rural gap in use of digital payments	3	3.1.3 Online access to financial account	123
1.2.4 AI scientific publications	28	4.2.2 Freedom to make life choices	125
2.1.1 Mobile broadband internet traffic within the country	32	1.3.4 Computer software spending	126
4.1.5 Prevalence of gig economy	33	3.2.1 Regulatory quality	130
1.1.5 International Internet bandwidth	36		
4.1.4 Domestic market size	40		
2.2.4 Annual investment in telecommunication services	42		
2.3.3 Government promotion of investment in emerging technologies	42		
2.1.2 ICT skills in the education system	45		
4.3.1 SDG 3: Good Health and Well-Being	50		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Algeria

Network Readiness Index Rank: 103 (out of 134) Score: 37.52

Pillar/sub-pillar	Rank	Score
A. Technology pillar	97	31.45
1st sub-pillar: Access	101	49.33
2nd sub-pillar: Content	92	17.83
3rd sub-pillar: Future Technologies	91	27.19
B. People pillar	91	35.63
1st sub-pillar: Individuals	62	48.35
2nd sub-pillar: Businesses	111	28.92
3rd sub-pillar: Governments	92	29.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	106	41.18
1st sub-pillar: Trust	117	19.16
2nd sub-pillar: Regulation	96	57.26
3rd sub-pillar: Inclusion	98	47.11
D. Impact pillar	107	41.82
1st sub-pillar: Economy	90	21.43
2nd sub-pillar: Quality of Life	102	52.69
3rd sub-pillar: SDG Contribution	106	51.33

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	97	31.45	
1st sub-pillar: Access	101	49.33	
1.1.1 Mobile tariffs	76	57.75	
1.1.2 Handset prices	104	30.61	
1.1.3 FTTH/building Internet subscriptions	72	26.39	
1.1.4 Population covered by at least a 3G mobile network	75	99.36	
1.1.5 International Internet bandwidth	36	76.49	•
1.1.6 Internet access in schools	79	5.39	
2nd sub-pillar: Content	92	17.83	
1.2.1 GitHub commits	113	0.95	
1.2.2 Internet domain registrations	115	0.32	
1.2.3 Mobile apps development	102	50.98	
1.2.4 AI scientific publications	28	19.05	•
3rd sub-pillar: Future Technologies	91	27.19	
1.3.1 Adoption of emerging technologies	65	47.15	
1.3.2 Investment in emerging technologies	86	34.00	

Indicator	Rank	Score	
C. Governance pillar	106	41.18	
1st sub-pillar: Trust	117	19.16	
3.1.1 Secure Internet servers	114	30.92	
3.1.2 Cybersecurity	105	32.79	
3.1.3 Online access to financial account	123	4.16	○
3.1.4 Internet shopping	98	8.78	
2nd sub-pillar: Regulation	96	57.26	
3.2.1 Regulatory quality	130	23.15	○
3.2.2 ICT regulatory environment	111	64.12	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	114	41.77	
3rd sub-pillar: Inclusion	98	47.11	
3.3.1 E-Participation	122	20.94	
3.3.2 Socioeconomic gap in use of digital payments	116	41.78	
3.3.3 Availability of local online content	91	47.84	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	126	0.43	○
B. People pillar	91	35.63	
1st sub-pillar: Individuals	62	48.35	
2.1.1 Mobile broadband internet traffic within the country	32	27.02	●
2.1.2 ICT skills in the education system	45	56.62	●
2.1.3 Use of virtual social networks	87	49.07	
2.1.4 Tertiary enrollment	63	34.44	
2.1.5 Adult literacy rate	79	74.61	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	111	28.92	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	80	8.34	
2.2.3 Knowledge intensive employment	80	24.62	
2.2.4 Annual investment in telecommunication services	42	81.81	●
2.2.5 GERD performed by business enterprise	75	0.91	
3rd sub-pillar: Governments	92	29.62	
2.3.1 Government online services	116	30.85	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	42	48.56	●
2.3.4 R&D expenditure by governments and higher education	59	9.45	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	98	34.99	
3.3.5 Rural gap in use of digital payments	3	89.99	●
D. Impact pillar	107	41.82	
1st sub-pillar: Economy	90	21.43	
4.1.1 High-tech and medium-high-tech manufacturing	102	2.88	
4.1.2 High-tech exports	114	1.49	
4.1.3 PCT patent applications	79	1.23	
4.1.4 Domestic market size	40	61.99	●
4.1.5 Prevalence of gig economy	33	59.59	●
4.1.6 ICT services exports	123	1.42	
2nd sub-pillar: Quality of Life	102	52.69	
4.2.1 Happiness	87	53.28	
4.2.2 Freedom to make life choices	125	30.61	○
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	59	74.19	
3rd sub-pillar: SDG Contribution	106	51.33	
4.3.1 SDG 3: Good Health and Well-Being	50	76.52	●
4.3.2 SDG 4: Quality Education	74	11.28	○
4.3.3 SDG 5: Women's economic opportunity	124	39.82	
4.3.4 SDG 7: Affordable and Clean Energy	97	61.99	
4.3.5 SDG 11: Sustainable Cities and Communities	64	67.05	

NOTE: ● a strength and ○ a weakness.

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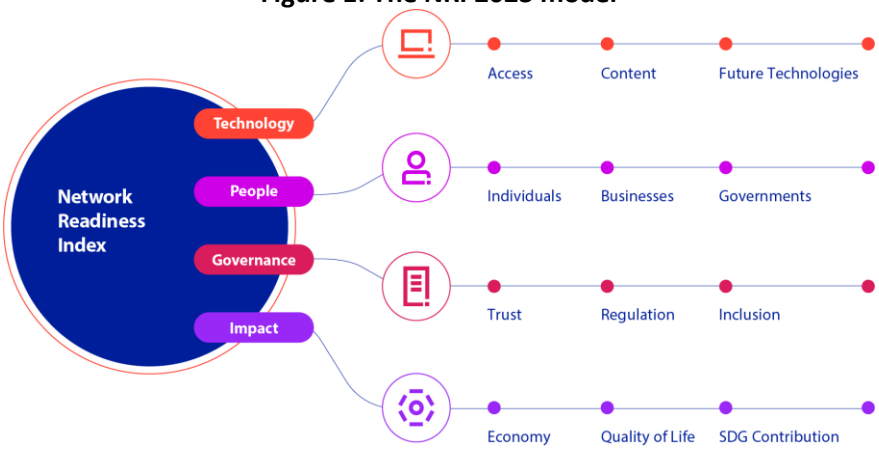
Angola

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

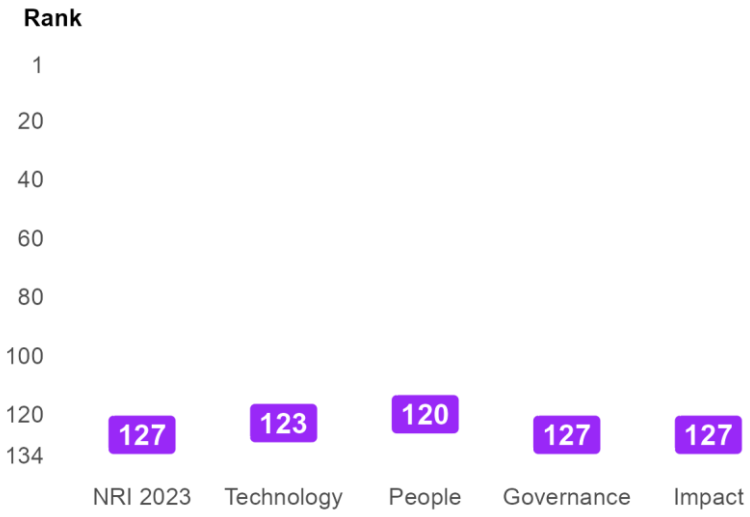
Figure 1: The NRI 2023 model



Global NRI position of Angola

Angola ranks 127th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance and Impact.

Figure 2: Angola global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Angola relate to Businesses, SDG Contribution and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Future Technologies and Quality of Life sub-pillars.

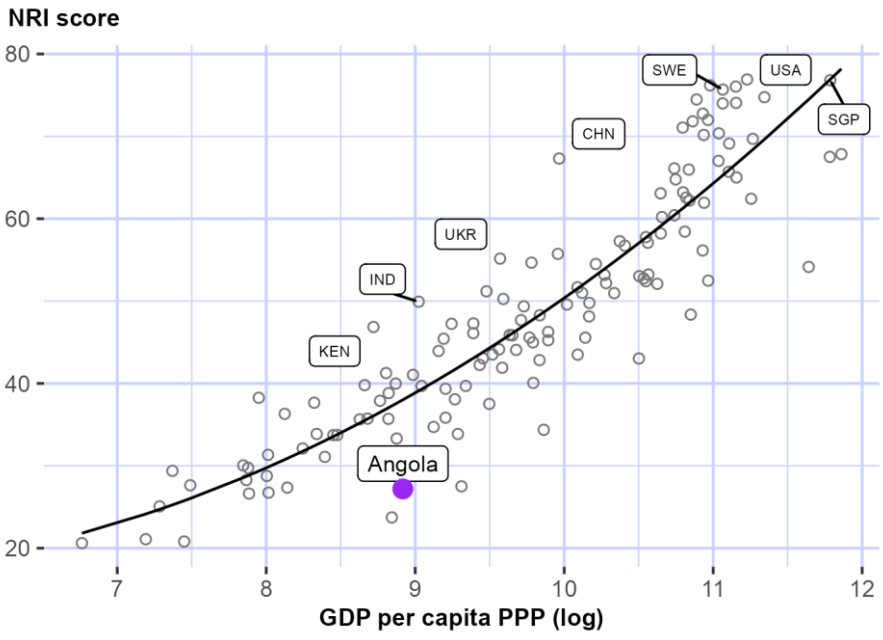
Table 1: Angola rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	76	Governments	118
SDG Contribution	98	Trust	120
Economy	102	Individuals	128
Access	110	Inclusion	130
Regulation	114	Future Technologies	133
Content	115	Quality of Life	133

NRI score and income

Figure 3 shows the position of Angola in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Angola is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Angola belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Angola is ranked 38th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Businesses.

Africa

Angola is ranked 25th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Access, Content, Businesses, Economy and SDG Contribution.

Figure 4: Performance of Angola against its income group and region, overall and by pillar

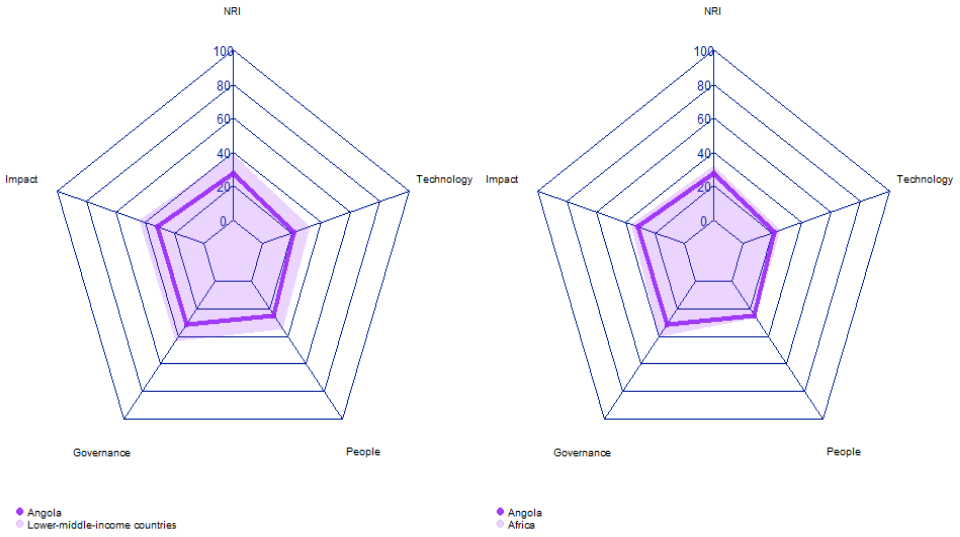


Table 2: Angola scores vs. averages of its income group and region, overall and by pillar

Dimension	Angola	Lower-middle-income countries	Africa
NRI	27.20	38.41	32.14
Technology	21.12	32.12	25.14
People	24.88	34.38	26.19
Governance	31.00	43.27	40.44
Impact	31.78	43.89	36.77

Strongest and weakest indicators

The indicators where Angola performs particularly well include 4.1.2 High-tech exports, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.3.2 Socioeconomic gap in use of digital payments, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Angola

Strongest indicators	Rank	Weakest indicators	Rank
4.1.2 High-tech exports	13	4.1.3 PCT patent applications	99
4.3.4 SDG 7: Affordable and Clean Energy	36	2.1.2 ICT skills in the education system	106
3.2.5 Privacy protection by law content	58	3.3.1 E-Participation	128
4.1.4 Domestic market size	64	4.1.6 ICT services exports	128
1.1.3 FTTH/building Internet subscriptions	71	1.2.2 Internet domain registrations	129
2.2.4 Annual investment in telecommunication services	74	3.3.2 Socioeconomic gap in use of digital payments	130
1.1.2 Handset prices	75	4.2.2 Freedom to make life choices	130
4.3.3 SDG 5: Women's economic opportunity	85	1.3.2 Investment in emerging technologies	132
3.2.2 ICT regulatory environment	88		
4.3.5 SDG 11: Sustainable Cities and Communities	89		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Angola

Network Readiness Index Rank: 127 (out of 134) Score: 27.20

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	123	21.12	C. Governance pillar	127	31.00
1st sub-pillar: Access	110	44.38	1st sub-pillar: Trust	120	17.58
2nd sub-pillar: Content	115	10.78	2nd sub-pillar: Regulation	114	48.93
3rd sub-pillar: Future Technologies	133	8.21	3rd sub-pillar: Inclusion	130	26.50
B. People pillar	120	24.88	D. Impact pillar	127	31.78
1st sub-pillar: Individuals	128	15.54	1st sub-pillar: Economy	102	18.26
2nd sub-pillar: Businesses	76	42.33	2nd sub-pillar: Quality of Life	133	22.93
3rd sub-pillar: Governments	118	16.77	3rd sub-pillar: SDG Contribution	98	54.15

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	123	21.12		**C. Governance pillar**	127	31.00	
1st sub-pillar: Access	110	44.38		*1st sub-pillar: Trust*	120	17.58	
1.1.1 Mobile tariffs	106	34.76		3.1.1 Secure Internet servers	122	23.70	
1.1.2 Handset prices	75	42.88	●	3.1.2 Cybersecurity	126	11.46	
1.1.3 FTTH/building Internet subscriptions	71	26.42	●	3.1.3 Online access to financial account	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	110	95.38		3.1.4 Internet shopping	NA	NA	
1.1.5 International Internet bandwidth	103	64.17		*2nd sub-pillar: Regulation*	114	48.93	
1.1.6 Internet access in schools	81	2.70		3.2.1 Regulatory quality	109	34.63	
2nd sub-pillar: Content	115	10.78		3.2.2 ICT regulatory environment	88	72.59	●
1.2.1 GitHub commits	126	0.35		3.2.3 Regulation of emerging technologies	117	1.82	
1.2.2 Internet domain registrations	129	0.08	○	3.2.4 E-commerce legislation	87	66.67	
1.2.3 Mobile apps development	110	42.61		3.2.5 Privacy protection by law content	58	68.96	●
1.2.4 AI scientific publications	127	0.10		*3rd sub-pillar: Inclusion*	130	26.50	
3rd sub-pillar: Future Technologies	133	8.21		3.3.1 E-Participation	128	15.12	○
1.3.1 Adoption of emerging technologies	121	16.41		3.3.2 Socioeconomic gap in use of digital payments	130	12.39	○
1.3.2 Investment in emerging technologies	132	0.00	○	3.3.3 Availability of local online content	125	23.08	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	120	24.88	
1st sub-pillar: Individuals	128	15.54	
2.1.1 Mobile broadband internet traffic within the country	94	2.89	
2.1.2 ICT skills in the education system	106	0.00	○
2.1.3 Use of virtual social networks	120	7.33	
2.1.4 Tertiary enrollment	110	5.34	
2.1.5 Adult literacy rate	91	62.15	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	76	42.33	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	113	7.73	
2.2.4 Annual investment in telecommunication services	74	76.93	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	118	16.77	
2.3.1 Government online services	103	41.60	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	119	8.32	
2.3.4 R&D expenditure by governments and higher education	113	0.40	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	91	55.39	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	127	31.78	
1st sub-pillar: Economy	102	18.26	
4.1.1 High-tech and medium-high-tech manufacturing	106	1.48	
4.1.2 High-tech exports	13	48.70	●
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	64	53.22	●
4.1.5 Prevalence of gig economy	122	5.23	
4.1.6 ICT services exports	128	0.90	○
2nd sub-pillar: Quality of Life	133	22.93	
4.2.1 Happiness	118	26.83	
4.2.2 Freedom to make life choices	130	0.00	○
4.2.3 Income inequality	108	29.40	
4.2.4 Healthy life expectancy at birth	120	35.51	
3rd sub-pillar: SDG Contribution	98	54.15	
4.3.1 SDG 3: Good Health and Well-Being	127	17.18	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	85	70.80	●
4.3.4 SDG 7: Affordable and Clean Energy	36	78.25	●
4.3.5 SDG 11: Sustainable Cities and Communities	89	50.37	●

NOTE: ● a strength and ○ a weakness.

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Argentina

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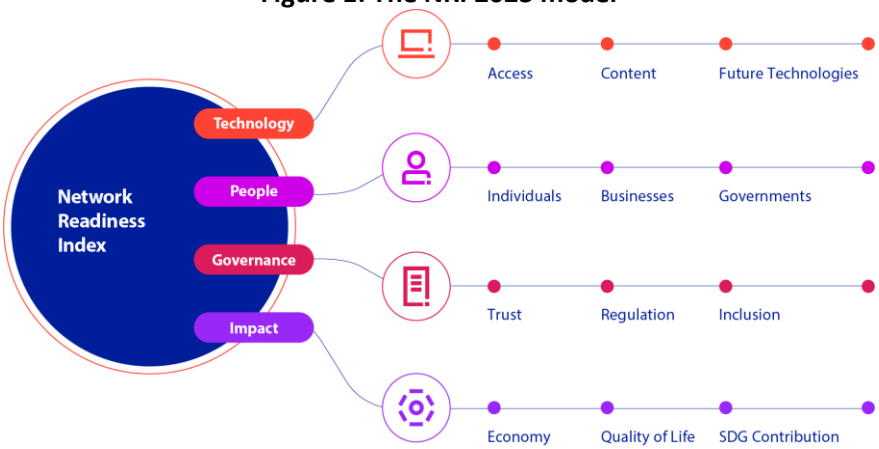
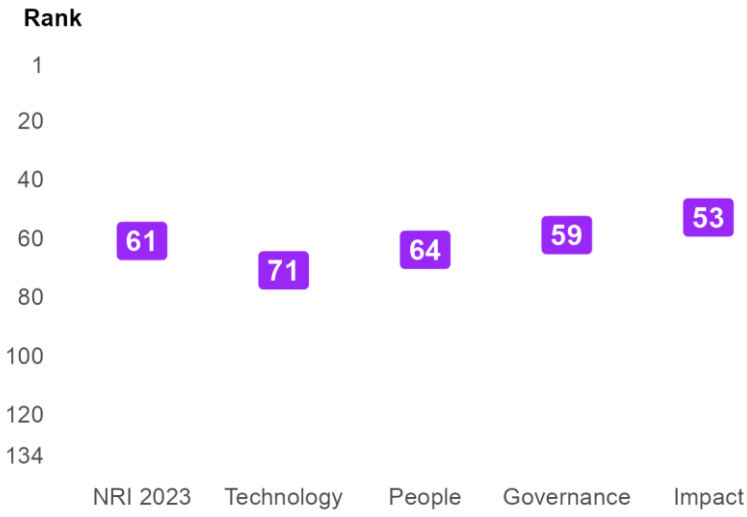
Figure 1: The NRI 2023 model



Global NRI position of Argentina

Argentina ranks 61st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Argentina global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Argentina relate to Governments, Inclusion and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Future Technologies and Individuals sub-pillars.

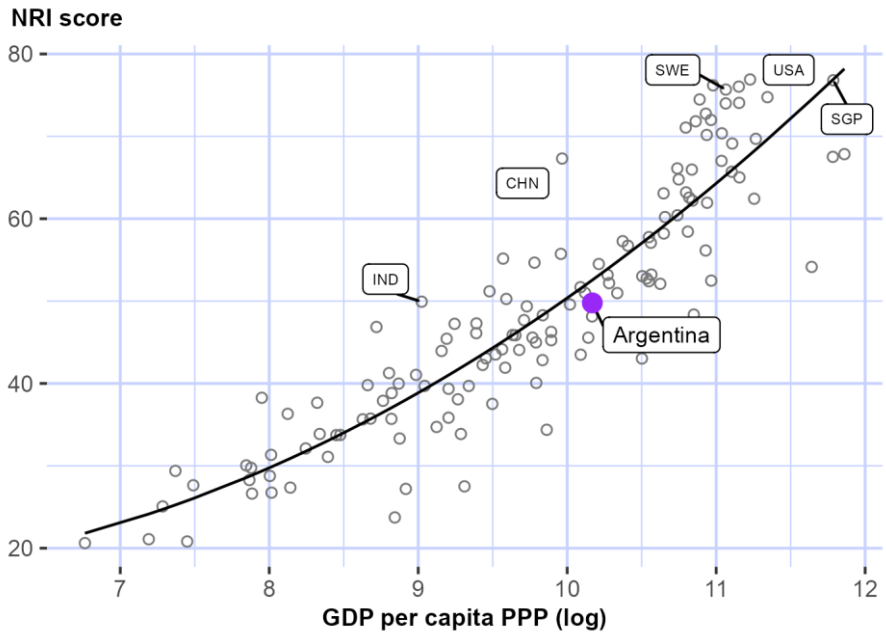
Table 1: Argentina rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	49	Businesses	66
Inclusion	49	SDG Contribution	66
Economy	53	Regulation	68
Content	60	Trust	69
Quality of Life	63	Future Technologies	82
Access	65	Individuals	86

NRI score and income

Figure 3 shows the position of Argentina in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Argentina is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Argentina belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Argentina is ranked 12th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

The Americas

Argentina is ranked 7th within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Argentina against its income group and region, overall and by pillar

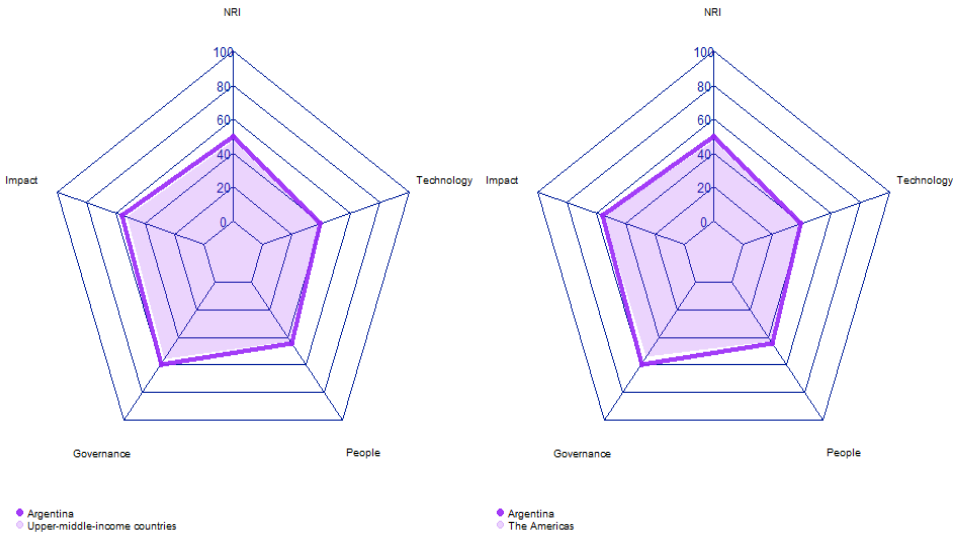


Table 2: Argentina scores vs. averages of its income group and region, overall and by pillar

Dimension	Argentina	Upper-middle-income countries	The Americas
NRI	49.78	47.35	47.41
Technology	39.53	38.48	38.24
People	44.28	42.59	42.35
Governance	59.48	55.90	54.12
Impact	55.82	52.43	54.93

Strongest and weakest indicators

The indicators where Argentina performs particularly well include 3.2.4 E-commerce legislation, 2.1.4 Tertiary enrollment, and 2.3.2 Publication and use of open data (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 3.1.2 Cybersecurity, and 4.2.3 Income inequality.

Table 3: Highlight of Strengths and Opportunities for Argentina

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	44
2.1.4 Tertiary enrollment	5	4.3.2 SDG 4: Quality Education	66
2.3.2 Publication and use of open data	23	4.2.3 Income inequality	88
1.1.3 FTTH/building Internet subscriptions	27	3.1.2 Cybersecurity	95
4.1.4 Domestic market size	28	3.2.1 Regulatory quality	105
2.2.4 Annual investment in telecommunication services	29		
2.1.3 Use of virtual social networks	34		
2.2.1 Firms with website	35		
3.3.4 Gender gap in Internet use	35		
2.3.1 Government online services	38		
4.2.1 Happiness	40		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Argentina

Network Readiness Index — Rank: 61 (out of 134) — Score: 49.78

Pillar/sub-pillar	Rank	Score
A. Technology pillar	71	39.53
1st sub-pillar: Access	65	65.18
2nd sub-pillar: Content	60	24.37
3rd sub-pillar: Future Technologies	82	29.04
B. People pillar	64	44.28
1st sub-pillar: Individuals	86	42.83
2nd sub-pillar: Businesses	66	44.96
3rd sub-pillar: Governments	49	45.07

Pillar/sub-pillar	Rank	Score
C. Governance pillar	59	59.48
1st sub-pillar: Trust	69	43.62
2nd sub-pillar: Regulation	68	65.12
3rd sub-pillar: Inclusion	49	69.69
D. Impact pillar	53	55.82
1st sub-pillar: Economy	53	33.64
2nd sub-pillar: Quality of Life	63	69.28
3rd sub-pillar: SDG Contribution	66	64.54

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	71	39.53	
1st sub-pillar: Access	65	65.18	
1.1.1 Mobile tariffs	50	71.25	
1.1.2 Handset prices	73	43.99	
1.1.3 FTTH/building Internet subscriptions	27	44.07	•
1.1.4 Population covered by at least a 3G mobile network	72	99.51	
1.1.5 International Internet bandwidth	48	74.56	
1.1.6 Internet access in schools	51	57.73	
2nd sub-pillar: Content	60	24.37	
1.2.1 GitHub commits	49	14.91	
1.2.2 Internet domain registrations	57	5.21	
1.2.3 Mobile apps development	58	68.49	
1.2.4 AI scientific publications	49	8.86	
3rd sub-pillar: Future Technologies	82	29.04	
1.3.1 Adoption of emerging technologies	51	51.97	
1.3.2 Investment in emerging technologies	85	34.50	

Indicator	Rank	Score	
C. Governance pillar	59	59.48	
1st sub-pillar: Trust	69	43.62	
3.1.1 Secure Internet servers	49	65.53	
3.1.2 Cybersecurity	95	49.24	○
3.1.3 Online access to financial account	76	22.93	
3.1.4 Internet shopping	53	36.76	
2nd sub-pillar: Regulation	68	65.12	
3.2.1 Regulatory quality	105	35.64	○
3.2.2 ICT regulatory environment	73	82.94	
3.2.3 Regulation of emerging technologies	77	35.58	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	50	71.46	
3rd sub-pillar: Inclusion	49	69.69	
3.3.1 E-Participation	51	63.95	
3.3.2 Socioeconomic gap in use of digital payments	54	81.47	
3.3.3 Availability of local online content	59	64.18	

Indicator	Rank	Score	
1.3.3 Robot density	40	3.31	
1.3.4 Computer software spending	47	26.37	
B. People pillar	64	44.28	
1st sub-pillar: Individuals	86	42.83	
2.1.1 Mobile broadband internet traffic within the country	43	17.62	
2.1.2 ICT skills in the education system	56	54.00	
2.1.3 Use of virtual social networks	34	75.27	●
2.1.4 Tertiary enrollment	5	65.10	●
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	44	2.15	○
2nd sub-pillar: Businesses	66	44.96	
2.2.1 Firms with website	35	69.09	●
2.2.2 GERD financed by business enterprise	62	28.98	
2.2.3 Knowledge intensive employment	51	36.74	
2.2.4 Annual investment in telecommunication services	29	84.98	●
2.2.5 GERD performed by business enterprise	53	5.02	
3rd sub-pillar: Governments	49	45.07	
2.3.1 Government online services	38	78.88	●
2.3.2 Publication and use of open data	23	57.35	●
2.3.3 Government promotion of investment in emerging tech	72	34.85	
2.3.4 R&D expenditure by governments and higher education	60	9.19	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	35	70.43	●
3.3.5 Rural gap in use of digital payments	53	68.43	
D. Impact pillar	53	55.82	
1st sub-pillar: Economy	53	33.64	
4.1.1 High-tech and medium-high-tech manufacturing	44	34.21	
4.1.2 High-tech exports	82	7.78	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	28	68.79	●
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	47	22.28	
2nd sub-pillar: Quality of Life	63	69.28	
4.2.1 Happiness	40	72.70	●
4.2.2 Freedom to make life choices	65	75.00	
4.2.3 Income inequality	88	52.76	○
4.2.4 Healthy life expectancy at birth	49	76.66	
3rd sub-pillar: SDG Contribution	66	64.54	
4.3.1 SDG 3: Good Health and Well-Being	54	73.93	
4.3.2 SDG 4: Quality Education	66	24.86	○
4.3.3 SDG 5: Women's economic opportunity	85	70.80	
4.3.4 SDG 7: Affordable and Clean Energy	45	76.08	
4.3.5 SDG 11: Sustainable Cities and Communities	44	77.02	

NOTE: ● a strength and ○ a weakness.

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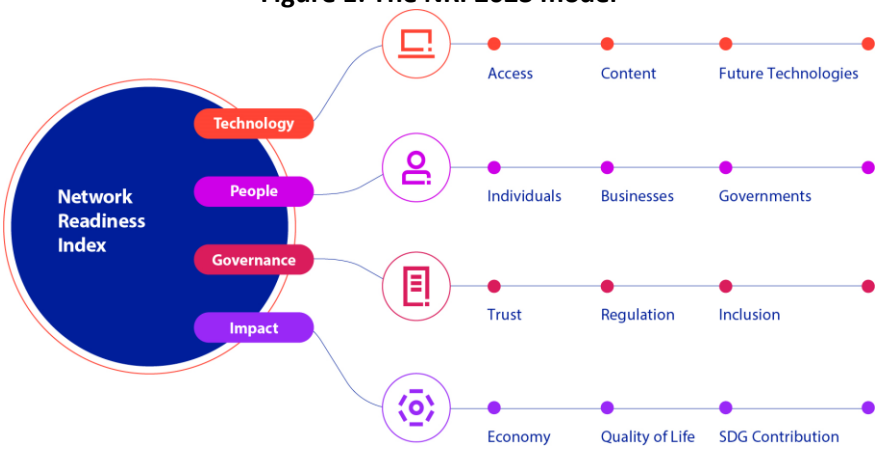
Armenia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

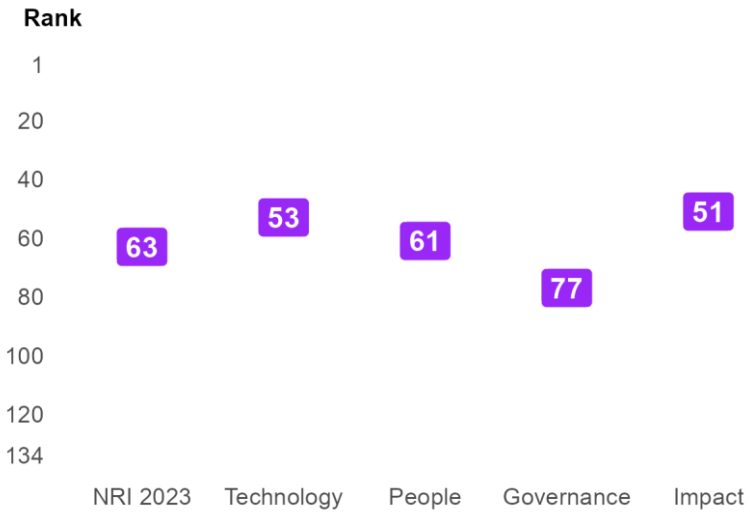
Figure 1: The NRI 2023 model



Global NRI position of Armenia

Armenia ranks 63rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Armenia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Armenia relate to Future Technologies, Content and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Inclusion and Trust sub-pillars.

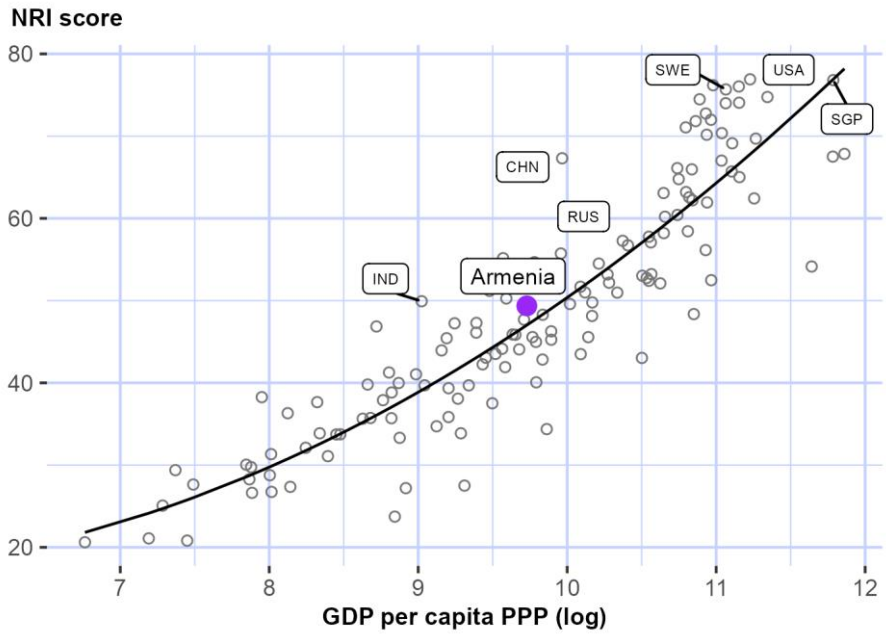
Table 1: Armenia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	48	Access	62
Content	53	Regulation	65
Governments	53	Economy	70
Quality of Life	54	Businesses	73
Individuals	55	Inclusion	83
SDG Contribution	55	Trust	90

NRI score and income

Figure 3 shows the position of Armenia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Armenia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Armenia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Armenia is ranked 14th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Quality of Life and SDG Contribution.

CIS

Armenia is ranked 3rd within CIS (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Armenia against its income group and region, overall and by pillar

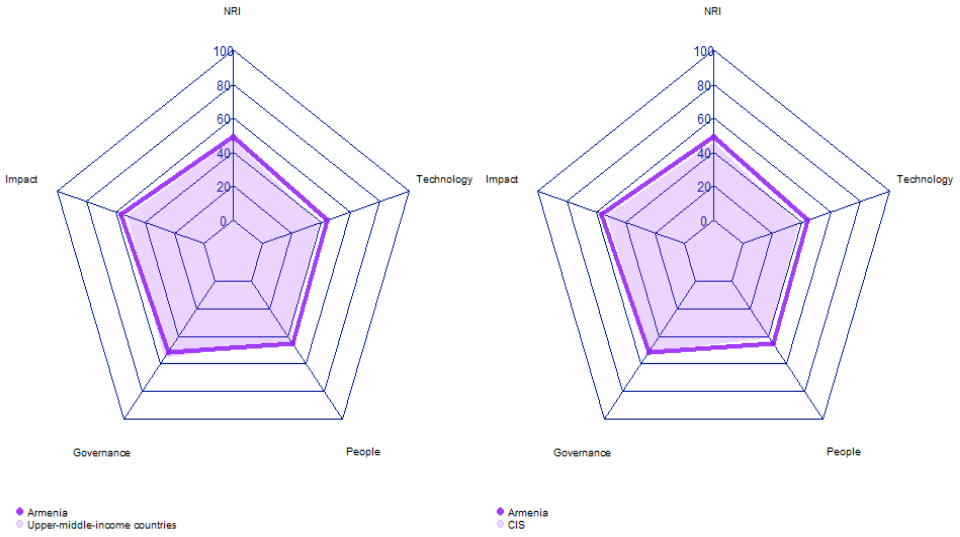


Table 2: Armenia scores vs. averages of its income group and region, overall and by pillar

Dimension	Armenia	Upper-middle-income countries	CIS
NRI	49.36	47.35	45.81
Technology	44.04	38.48	38.11
People	45.50	42.59	41.35
Governance	51.63	55.90	51.08
Impact	56.28	52.43	52.69

Strongest and weakest indicators

The indicators where Armenia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 2.2.4 Annual investment in telecommunication services, and 4.1.4 Domestic market size.

Table 3: Highlight of Strengths and Opportunities for Armenia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.4 E-commerce legislation	87
1.1.6 Internet access in schools	1	4.1.1 High-tech and medium-high-tech manufacturing	98
3.3.4 Gender gap in Internet use	2	4.1.4 Domestic market size	108
2.1.5 Adult literacy rate	9	2.2.4 Annual investment in telecommunication services	113
4.1.6 ICT services exports	9	3.3.5 Rural gap in use of digital payments	120
4.2.3 Income inequality	14		
2.3.3 Government promotion of investment in emerging technologies	29		
1.2.1 GitHub commits	36		
1.2.3 Mobile apps development	39		
3.2.3 Regulation of emerging technologies	41		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Armenia

Network Readiness Index Rank: 63 (out of 134) Score: 49.36

Pillar/sub-pillar	Rank	Score
A. Technology pillar	53	44.04
1st sub-pillar: Access	62	66.35
2nd sub-pillar: Content	53	26.75
3rd sub-pillar: Future Technologies	48	39.01
B. People pillar	61	45.50
1st sub-pillar: Individuals	55	50.11
2nd sub-pillar: Businesses	73	43.21
3rd sub-pillar: Governments	53	43.18

Pillar/sub-pillar	Rank	Score
C. Governance pillar	77	51.63
1st sub-pillar: Trust	90	33.96
2nd sub-pillar: Regulation	65	65.88
3rd sub-pillar: Inclusion	83	55.05
D. Impact pillar	51	56.28
1st sub-pillar: Economy	70	26.81
2nd sub-pillar: Quality of Life	54	72.56
3rd sub-pillar: SDG Contribution	55	69.46

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	53	44.04	
1st sub-pillar: Access	62	66.35	
1.1.1 Mobile tariffs	64	61.49	
1.1.2 Handset prices	89	37.80	
1.1.3 FTTH/building Internet subscriptions	57	30.40	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	85	68.42	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	53	26.75	
1.2.1 GitHub commits	36	27.89	●
1.2.2 Internet domain registrations	58	5.19	
1.2.3 Mobile apps development	39	72.52	●
1.2.4 AI scientific publications	97	1.39	
3rd sub-pillar: Future Technologies	48	39.01	
1.3.1 Adoption of emerging technologies	64	47.72	
1.3.2 Investment in emerging technologies	51	46.25	

Indicator	Rank	Score	
C. Governance pillar	77	51.63	
1st sub-pillar: Trust	90	33.96	
3.1.1 Secure Internet servers	68	51.31	
3.1.2 Cybersecurity	94	49.60	
3.1.3 Online access to financial account	85	17.52	
3.1.4 Internet shopping	75	17.42	
2nd sub-pillar: Regulation	65	65.88	
3.2.1 Regulatory quality	63	52.88	
3.2.2 ICT regulatory environment	53	86.47	
3.2.3 Regulation of emerging technologies	41	59.48	●
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	67	63.89	
3rd sub-pillar: Inclusion	83	55.05	
3.3.1 E-Participation	64	56.97	
3.3.2 Socioeconomic gap in use of digital payments	94	55.89	
3.3.3 Availability of local online content	71	59.38	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	58	23.07	
B. People pillar		61	45.50	
1st sub-pillar: Individuals		55	50.11	
2.1.1	Mobile broadband internet traffic within the country	89	4.18	
2.1.2	ICT skills in the education system	66	48.65	
2.1.3	Use of virtual social networks	68	62.46	
2.1.4	Tertiary enrollment	59	35.56	
2.1.5	Adult literacy rate	9	99.71	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		73	43.21	
2.2.1	Firms with website	55	55.45	
2.2.2	GERD financed by business enterprise	71	20.64	
2.2.3	Knowledge intensive employment	75	25.95	
2.2.4	Annual investment in telecommunication services	113	70.79	○
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		53	43.18	
2.3.1	Government online services	63	69.29	
2.3.2	Publication and use of open data	NA	NA	
2.3.3	Government promotion of investment in emerging tech	29	56.74	●
2.3.4	R&D expenditure by governments and higher education	89	3.53	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	2	84.45	●
3.3.5	Rural gap in use of digital payments	120	18.57	○
D. Impact pillar		51	56.28	
1st sub-pillar: Economy		70	26.81	
4.1.1	High-tech and medium-high-tech manufacturing	98	4.90	○
4.1.2	High-tech exports	71	10.56	
4.1.3	PCT patent applications	53	5.53	
4.1.4	Domestic market size	108	37.12	○
4.1.5	Prevalence of gig economy	58	44.48	
4.1.6	ICT services exports	9	58.31	●
2nd sub-pillar: Quality of Life		54	72.56	
4.2.1	Happiness	81	56.35	
4.2.2	Freedom to make life choices	77	69.08	
4.2.3	Income inequality	14	88.19	●
4.2.4	Healthy life expectancy at birth	50	76.63	
3rd sub-pillar: SDG Contribution		55	69.46	
4.3.1	SDG 3: Good Health and Well-Being	77	67.15	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	53	82.30	
4.3.4	SDG 7: Affordable and Clean Energy	52	75.14	
4.3.5	SDG 11: Sustainable Cities and Communities	85	53.25	

NOTE: ● a strength and ○ a weakness.

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Australia

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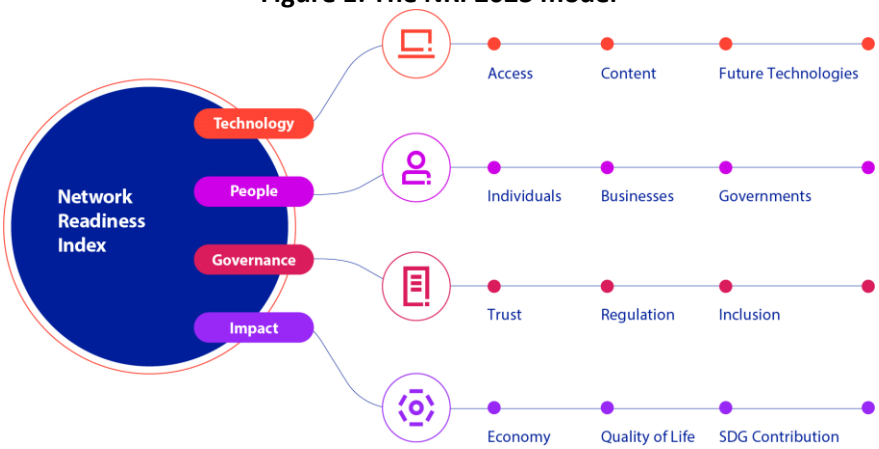
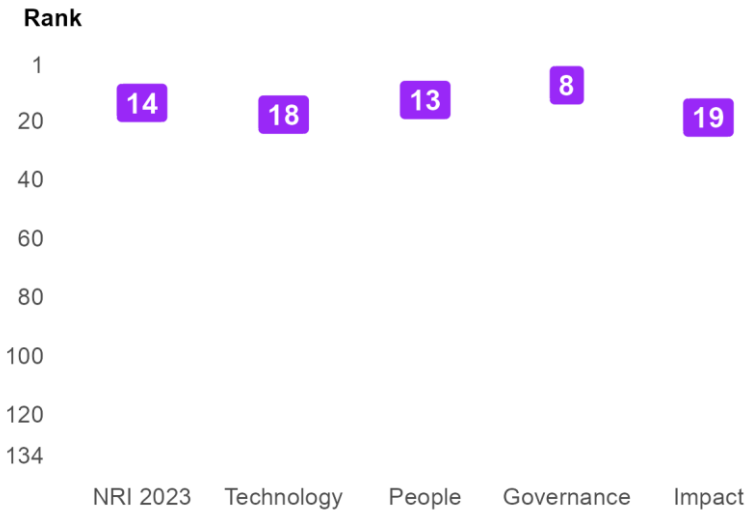
Figure 1: The NRI 2023 model



Global NRI position of Australia

Australia ranks 14th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Australia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Australia relate to Inclusion, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Future Technologies sub-pillars.

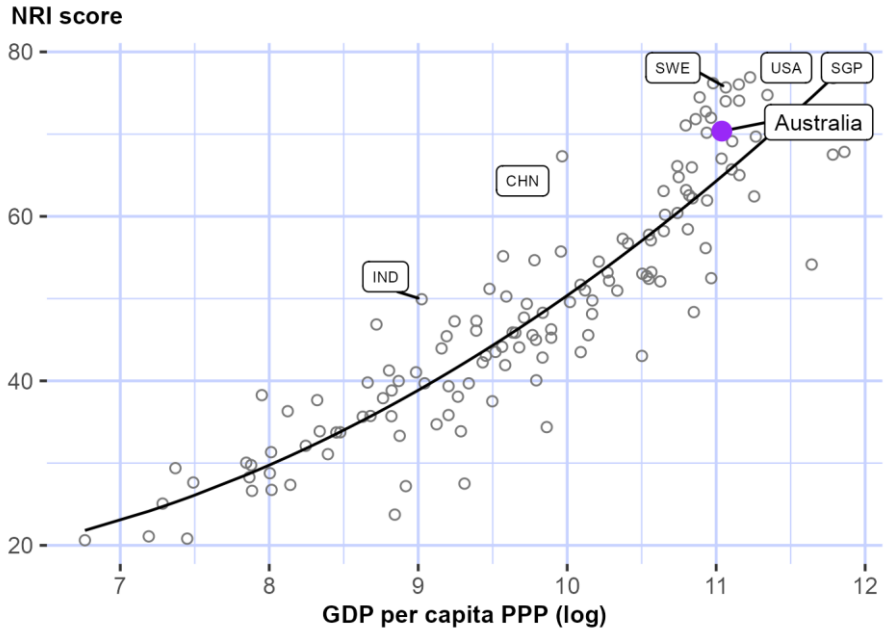
Table 1: Australia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	7	SDG Contribution	15
Trust	8	Businesses	17
Regulation	9	Quality of Life	19
Access	10	Economy	23
Content	12	Individuals	28
Governments	13	Future Technologies	36

NRI score and income

Figure 3 shows the position of Australia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Australia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Australia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Australia is ranked 14th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

Australia is ranked 4th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Australia against its income group and region, overall and by pillar

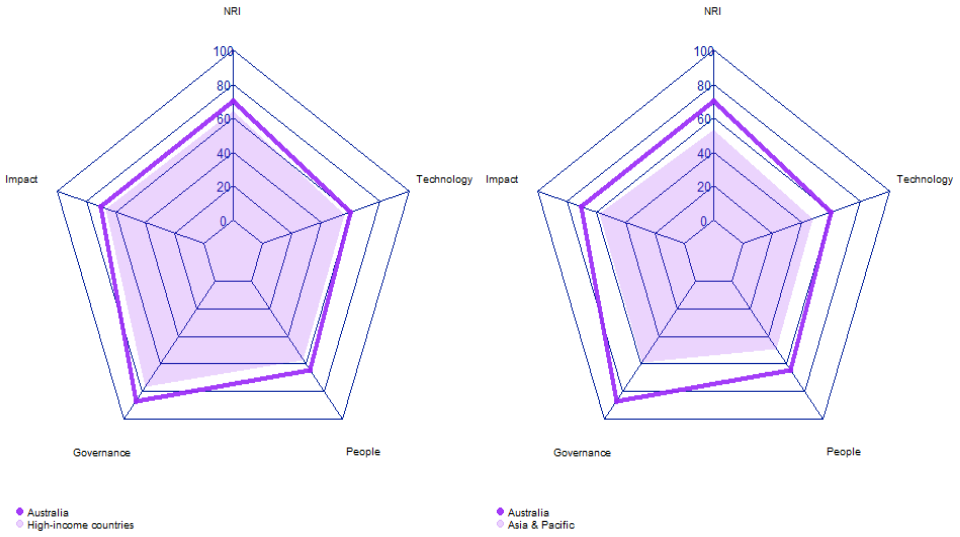


Table 2: Australia scores vs. averages of its income group and region, overall and by pillar

Dimension	Australia	High-income countries	Asia & Pacific
NRI	70.36	64.07	53.28
Technology	59.97	55.76	47.34
People	64.37	56.99	48.95
Governance	86.88	76.81	59.22
Impact	70.23	66.73	57.62

Strongest and weakest indicators

The indicators where Australia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 3.3.1 E-Participation (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 1.3.4 Computer software spending.

Table 3: Highlight of Strengths and Opportunities for Australia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	28
3.2.4 E-commerce legislation	1	1.3.4 Computer software spending	67
3.3.1 E-Participation	2	4.1.6 ICT services exports	75
2.1.4 Tertiary enrollment	3	4.3.4 SDG 7: Affordable and Clean Energy	78
2.3.2 Publication and use of open data	3		
3.2.1 Regulatory quality	4		
4.3.1 SDG 3: Good Health and Well-Being	4		
1.1.2 Handset prices	6		
3.1.4 Internet shopping	6		
2.3.1 Government online services	7		
2.2.3 Knowledge intensive employment	8		
3.3.3 Availability of local online content	9		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Australia

Network Readiness Index Rank: 14 (out of 134) Score: 70.36

Pillar/sub-pillar	Rank	Score
A. Technology pillar	18	59.97
1st sub-pillar: Access	10	80.05
2nd sub-pillar: Content	12	55.08
3rd sub-pillar: Future Technologies	36	44.78
B. People pillar	13	64.37
1st sub-pillar: Individuals	28	55.68
2nd sub-pillar: Businesses	17	68.66
3rd sub-pillar: Governments	13	68.78

Pillar/sub-pillar	Rank	Score
C. Governance pillar	8	86.88
1st sub-pillar: Trust	8	87.66
2nd sub-pillar: Regulation	9	88.04
3rd sub-pillar: Inclusion	7	84.96
D. Impact pillar	19	70.23
1st sub-pillar: Economy	23	43.75
2nd sub-pillar: Quality of Life	19	82.09
3rd sub-pillar: SDG Contribution	15	84.86

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	18	59.97	
1st sub-pillar: Access	10	80.05	
1.1.1 Mobile tariffs	32	78.25	
1.1.2 Handset prices	6	91.51	•
1.1.3 FTTH/building Internet subscriptions	46	35.94	
1.1.4 Population covered by at least a 3G mobile network	50	99.84	
1.1.5 International Internet bandwidth	47	74.75	
1.1.6 Internet access in schools	1	100.00	•
2nd sub-pillar: Content	12	55.08	
1.2.1 GitHub commits	23	51.26	
1.2.2 Internet domain registrations	10	68.89	
1.2.3 Mobile apps development	37	72.73	
1.2.4 AI scientific publications	17	27.44	
3rd sub-pillar: Future Technologies	36	44.78	
1.3.1 Adoption of emerging technologies	15	82.33	
1.3.2 Investment in emerging technologies	24	65.75	

Indicator	Rank	Score	
C. Governance pillar	8	86.88	
1st sub-pillar: Trust	8	87.66	
3.1.1 Secure Internet servers	18	84.53	
3.1.2 Cybersecurity	17	97.43	
3.1.3 Online access to financial account	11	79.37	
3.1.4 Internet shopping	6	89.30	•
2nd sub-pillar: Regulation	9	88.04	
3.2.1 Regulatory quality	4	91.14	•
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Regulation of emerging technologies	22	74.29	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	33	80.07	
3rd sub-pillar: Inclusion	7	84.96	
3.3.1 E-Participation	2	98.83	•
3.3.2 Socioeconomic gap in use of digital payments	20	96.29	
3.3.3 Availability of local online content	9	93.03	•

Indicator	Rank	Score	
1.3.3 Robot density	27	10.74	
1.3.4 Computer software spending	67	20.28	○
B. People pillar	13	64.37	
1st sub-pillar: Individuals	28	55.68	
2.1.1 Mobile broadband internet traffic within the country	29	28.69	
2.1.2 ICT skills in the education system	10	82.28	
2.1.3 Use of virtual social networks	28	76.54	
2.1.4 Tertiary enrollment	3	75.24	●
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	28	15.67	○
2nd sub-pillar: Businesses	17	68.66	
2.2.1 Firms with website	18	81.87	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	8	79.39	●
2.2.4 Annual investment in telecommunication services	12	89.85	
2.2.5 GERD performed by business enterprise	24	23.52	
3rd sub-pillar: Governments	13	68.78	
2.3.1 Government online services	7	93.15	●
2.3.2 Publication and use of open data	3	98.53	●
2.3.3 Government promotion of investment in emerging tech	37	51.21	
2.3.4 R&D expenditure by governments and higher education	21	32.24	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	41	69.85	
3.3.5 Rural gap in use of digital payments	56	66.79	
D. Impact pillar	19	70.23	
1st sub-pillar: Economy	23	43.75	
4.1.1 High-tech and medium-high-tech manufacturing	49	30.35	
4.1.2 High-tech exports	17	40.37	
4.1.3 PCT patent applications	27	31.51	
4.1.4 Domestic market size	19	71.62	
4.1.5 Prevalence of gig economy	12	78.20	
4.1.6 ICT services exports	75	10.47	○
2nd sub-pillar: Quality of Life	19	82.09	
4.2.1 Happiness	12	87.09	
4.2.2 Freedom to make life choices	50	79.76	
4.2.3 Income inequality	45	72.11	
4.2.4 Healthy life expectancy at birth	22	89.42	
3rd sub-pillar: SDG Contribution	15	84.86	
4.3.1 SDG 3: Good Health and Well-Being	4	96.39	●
4.3.2 SDG 4: Quality Education	20	67.32	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	
4.3.4 SDG 7: Affordable and Clean Energy	78	68.71	○
4.3.5 SDG 11: Sustainable Cities and Communities	9	96.29	

NOTE: ● a strength and ○ a weakness.

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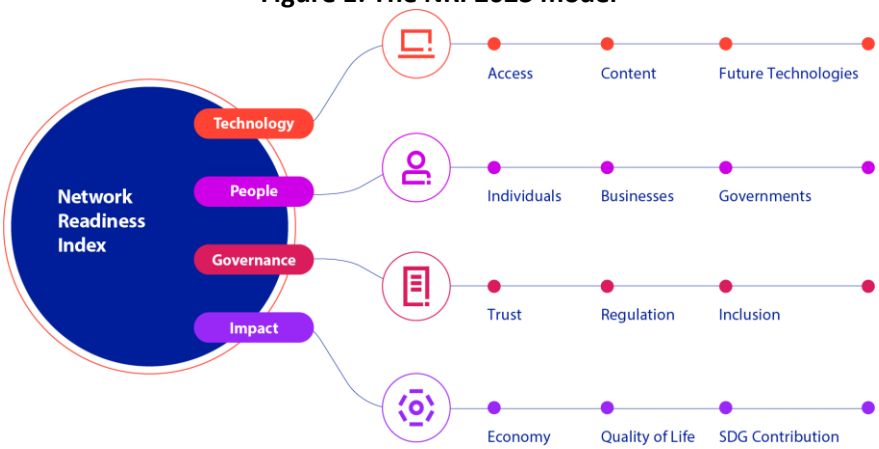
Austria

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

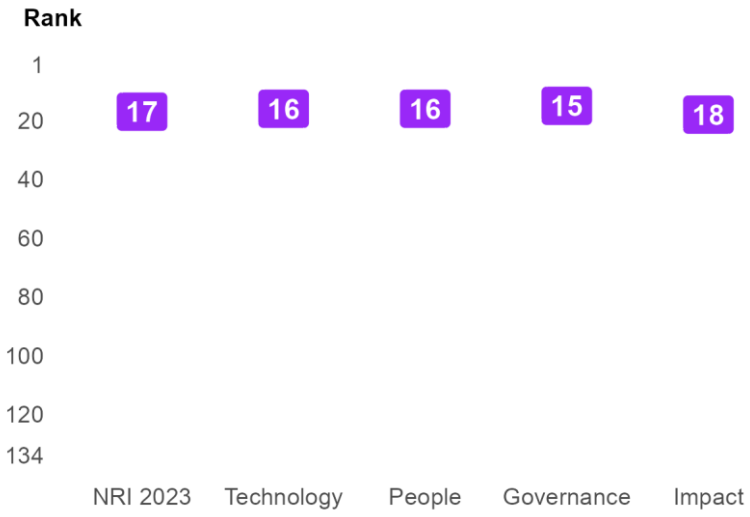
Figure 1: The NRI 2023 model



Global NRI position of Austria

Austria ranks 17th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Austria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Austria relate to Businesses, Quality of Life and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Access and Individuals sub-pillars.

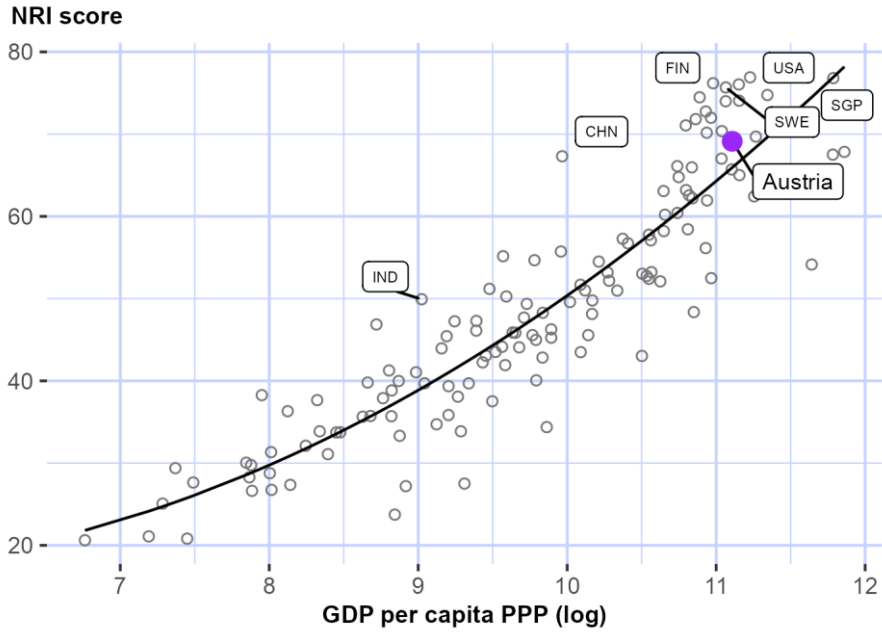
Table 1: Austria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	12	Content	17
Quality of Life	14	SDG Contribution	20
Governments	15	Trust	21
Regulation	15	Economy	22
Inclusion	15	Access	37
Future Technologies	16	Individuals	46

NRI score and income

Figure 3 shows the position of Austria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Austria is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Austria belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Austria is ranked 17th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Austria is ranked 11th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Austria against its income group and region, overall and by pillar

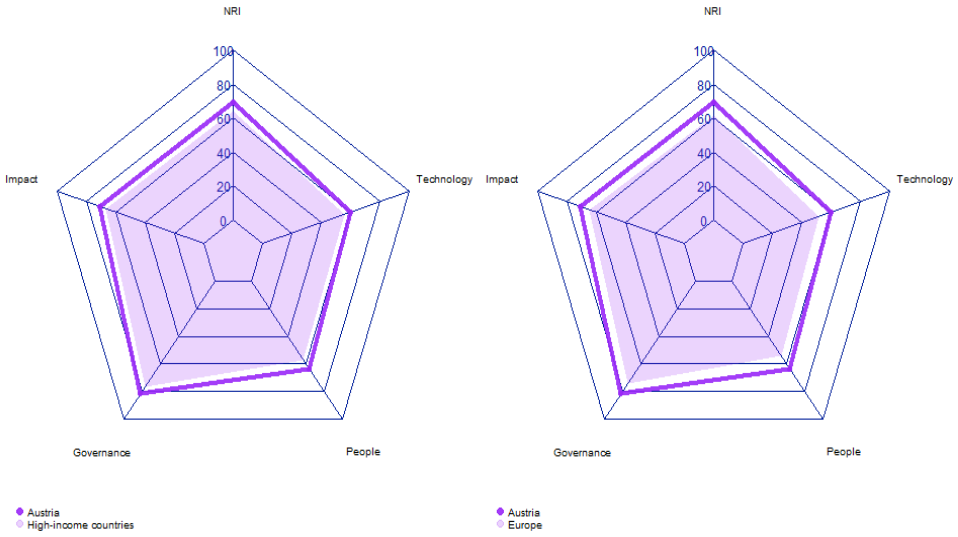


Table 2: Austria scores vs. averages of its income group and region, overall and by pillar

Dimension	Austria	High-income countries	Europe
NRI	69.13	64.07	61.25
Technology	60.19	55.76	51.90
People	63.74	56.99	54.16
Governance	81.98	76.81	74.33
Impact	70.61	66.73	64.61

Strongest and weakest indicators

The indicators where Austria performs particularly well include 3.2.4 E-commerce legislation, 1.1.2 Handset prices, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 1.1.5 International Internet bandwidth, and 4.1.5 Prevalence of gig economy.

Table 3: Highlight of Strengths and Opportunities for Austria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.1.4 Population covered by at least a 3G mobile network	76
1.1.2 Handset prices	3	4.1.5 Prevalence of gig economy	79
2.2.1 Firms with website	4	1.1.5 International Internet bandwidth	86
2.2.5 GERD performed by business enterprise	7	1.1.3 FTTH/building Internet subscriptions	103
3.3.5 Rural gap in use of digital payments	7		
1.3.4 Computer software spending	8		
2.3.4 R&D expenditure by governments and higher education	8		
3.3.2 Socioeconomic gap in use of digital payments	10		
4.1.3 PCT patent applications	12		
1.2.2 Internet domain registrations	13		
4.2.1 Happiness	13		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Austria

Network Readiness Index — Rank: 17 (out of 134) — Score: 69.13

Pillar/sub-pillar	Rank	Score
A. Technology pillar	16	60.19
1st sub-pillar: Access	37	72.68
2nd sub-pillar: Content	17	49.86
3rd sub-pillar: Future Technologies	16	58.02
B. People pillar	16	63.74
1st sub-pillar: Individuals	46	51.71
2nd sub-pillar: Businesses	12	72.73
3rd sub-pillar: Governments	15	66.78

Pillar/sub-pillar	Rank	Score
C. Governance pillar	15	81.98
1st sub-pillar: Trust	21	77.61
2nd sub-pillar: Regulation	15	86.60
3rd sub-pillar: Inclusion	15	81.73
D. Impact pillar	18	70.61
1st sub-pillar: Economy	22	43.79
2nd sub-pillar: Quality of Life	14	84.83
3rd sub-pillar: SDG Contribution	20	83.20

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	16	60.19	
1st sub-pillar: Access	37	72.68	
1.1.1 Mobile tariffs	15	86.50	
1.1.2 Handset prices	3	97.37	●
1.1.3 FTTH/building Internet subscriptions	103	12.10	○
1.1.4 Population covered by at least a 3G mobile network	76	99.34	○
1.1.5 International Internet bandwidth	86	68.07	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	17	49.86	
1.2.1 GitHub commits	15	60.80	
1.2.2 Internet domain registrations	13	58.08	●
1.2.3 Mobile apps development	52	70.83	
1.2.4 AI scientific publications	47	9.73	
3rd sub-pillar: Future Technologies	16	58.02	
1.3.1 Adoption of emerging technologies	21	74.59	
1.3.2 Investment in emerging technologies	26	64.25	

Indicator	Rank	Score	
C. Governance pillar	15	81.98	
1st sub-pillar: Trust	21	77.61	
3.1.1 Secure Internet servers	22	83.21	
3.1.2 Cybersecurity	36	93.78	
3.1.3 Online access to financial account	22	59.89	
3.1.4 Internet shopping	20	73.57	
2nd sub-pillar: Regulation	15	86.60	
3.2.1 Regulatory quality	20	80.07	
3.2.2 ICT regulatory environment	38	88.82	
3.2.3 Regulation of emerging technologies	13	80.78	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	24	83.33	
3rd sub-pillar: Inclusion	15	81.73	
3.3.1 E-Participation	21	76.74	
3.3.2 Socioeconomic gap in use of digital payments	10	98.14	●
3.3.3 Availability of local online content	23	85.34	

Indicator	Rank	Score	
1.3.3 Robot density	14	29.87	
1.3.4 Computer software spending	8	63.38	●
B. People pillar	16	63.74	
1st sub-pillar: Individuals	46	51.71	
2.1.1 Mobile broadband internet traffic within the country	30	28.48	
2.1.2 ICT skills in the education system	34	66.53	
2.1.3 Use of virtual social networks	24	77.52	
2.1.4 Tertiary enrollment	15	57.03	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	15	28.97	
2nd sub-pillar: Businesses	12	72.73	
2.2.1 Firms with website	4	94.14	●
2.2.2 GERD financed by business enterprise	27	62.56	
2.2.3 Knowledge intensive employment	24	67.62	
2.2.4 Annual investment in telecommunication services	37	82.49	
2.2.5 GERD performed by business enterprise	7	56.84	●
3rd sub-pillar: Governments	15	66.78	
2.3.1 Government online services	19	87.04	
2.3.2 Publication and use of open data	17	69.12	
2.3.3 Government promotion of investment in emerging tech	33	53.67	
2.3.4 R&D expenditure by governments and higher education	8	57.31	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	51	68.92	
3.3.5 Rural gap in use of digital payments	7	79.51	●
D. Impact pillar	18	70.61	
1st sub-pillar: Economy	22	43.79	
4.1.1 High-tech and medium-high-tech manufacturing	19	57.18	
4.1.2 High-tech exports	38	24.74	
4.1.3 PCT patent applications	12	53.52	●
4.1.4 Domestic market size	41	61.97	
4.1.5 Prevalence of gig economy	79	35.47	○
4.1.6 ICT services exports	30	29.86	
2nd sub-pillar: Quality of Life	14	84.83	
4.2.1 Happiness	13	86.42	●
4.2.2 Freedom to make life choices	48	80.04	
4.2.3 Income inequality	24	83.42	
4.2.4 Healthy life expectancy at birth	21	89.44	
3rd sub-pillar: SDG Contribution	20	83.20	
4.3.1 SDG 3: Good Health and Well-Being	26	88.39	
4.3.2 SDG 4: Quality Education	27	64.07	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	
4.3.4 SDG 7: Affordable and Clean Energy	28	79.84	
4.3.5 SDG 11: Sustainable Cities and Communities	23	88.14	

NOTE: ● a strength and ○ a weakness.

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Azerbaijan

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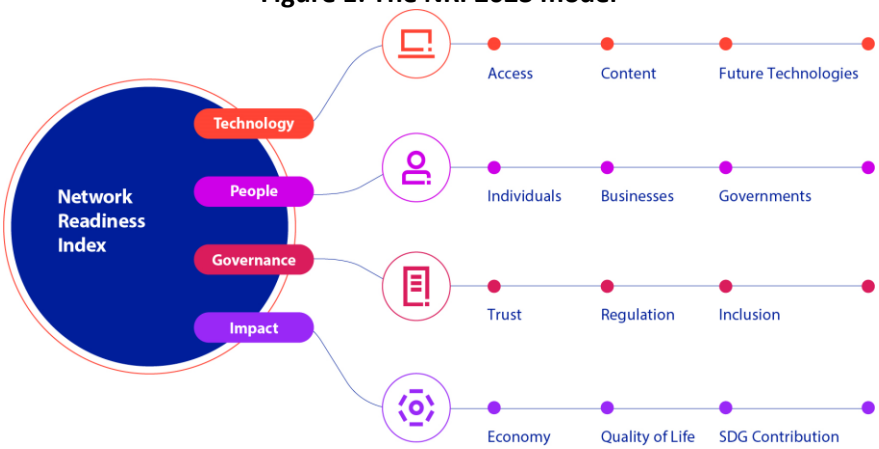
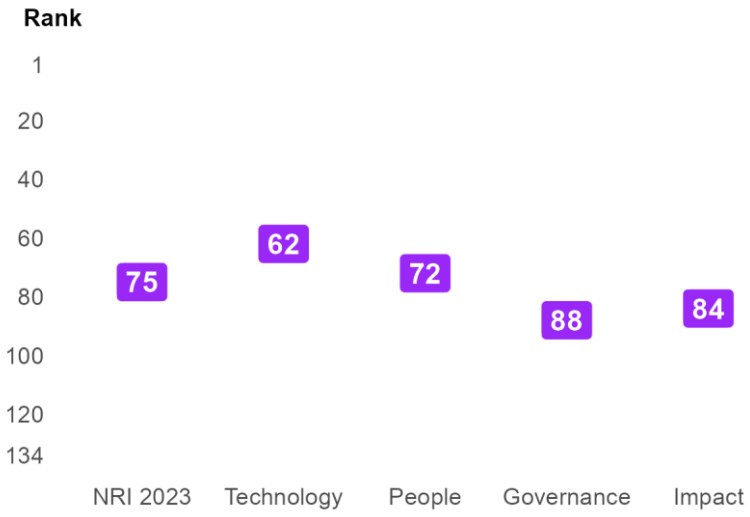
Figure 1: The NRI 2023 model



Global NRI position of Azerbaijan

Azerbaijan ranks 75th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Azerbaijan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Azerbaijan relate to Future Technologies, Governments and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Content and Regulation sub-pillars.

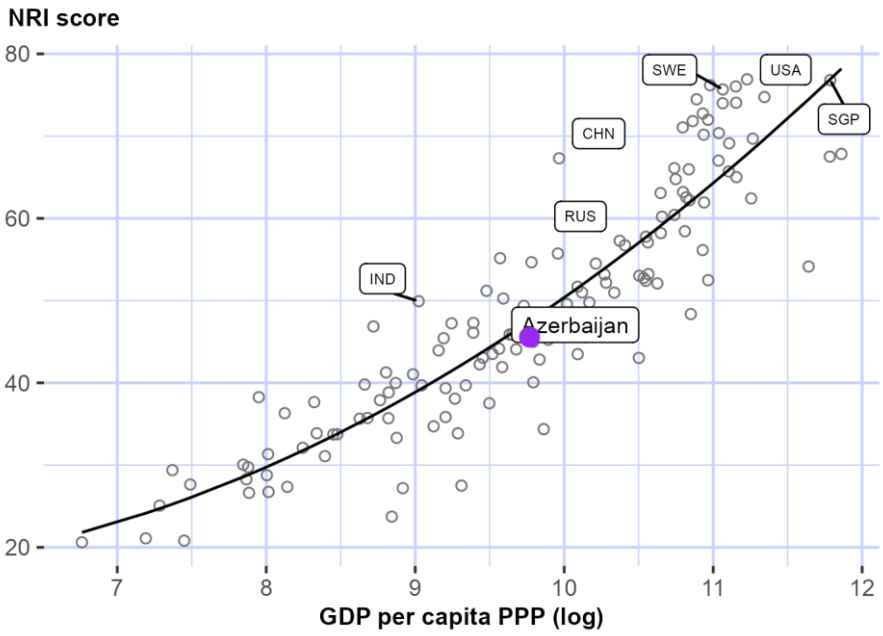
Table 1: Azerbaijan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	35	Quality of Life	78
Governments	52	Economy	81
Access	72	Individuals	89
SDG Contribution	72	Inclusion	90
Trust	76	Content	98
Businesses	77	Regulation	103

NRI score and income

Figure 3 shows the position of Azerbaijan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Azerbaijan is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Azerbaijan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Azerbaijan is ranked 22nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Technology. At the sub-pillar level, it outperforms upper-middle-income countries in two of the twelve sub-pillars: Future Technologies and Governments.

CIS

Azerbaijan is ranked 4th within CIS (Figure 4, right panel). It has a score above the regional average in two of the four pillars: Technology and People. With regard to sub-pillars, it outperforms the average in CIS in six of the twelve sub-pillars: Access, Future Technologies, Businesses, Governments, Regulation and Economy.

Figure 4: Performance of Azerbaijan against its income group and region, overall and by pillar

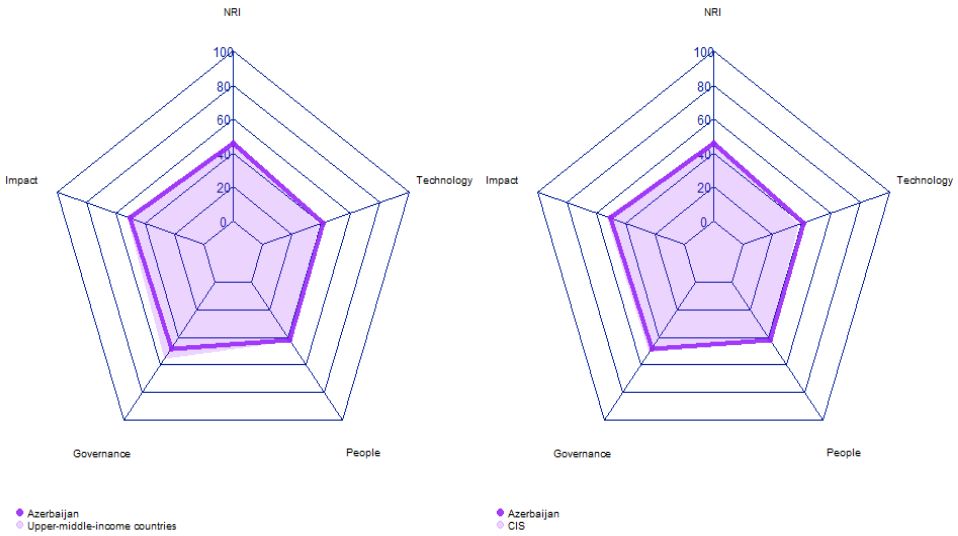


Table 2: Azerbaijan scores vs. averages of its income group and region, overall and by pillar

Dimension	Azerbaijan	Upper-middle-income countries	CIS
NRI	45.57	47.35	45.81
Technology	41.37	38.48	38.11
People	42.13	42.59	41.35
Governance	48.46	55.90	51.08
Impact	50.30	52.43	52.69

Strongest and weakest indicators

The indicators where Azerbaijan performs particularly well include 2.1.5 Adult literacy rate, 4.1.5 Prevalence of gig economy, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 3.1.3 Online access to financial account, and 3.2.2 ICT regulatory environment.

Table 3: Highlight of Strengths and Opportunities for Azerbaijan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	8	2.2.5 GERD performed by business enterprise	87
4.1.5 Prevalence of gig economy	16	3.2.4 E-commerce legislation	87
2.3.3 Government promotion of investment in emerging technologies	20	3.1.3 Online access to financial account	117
1.3.2 Investment in emerging technologies	23	3.2.2 ICT regulatory environment	117
3.3.3 Availability of local online content	24	3.3.5 Rural gap in use of digital payments	118
1.3.1 Adoption of emerging technologies	34		
4.3.5 SDG 11: Sustainable Cities and Communities	38		
1.1.4 Population covered by at least a 3G mobile network	40		
2.2.1 Firms with website	41		
3.1.2 Cybersecurity	48		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Azerbaijan

Network Readiness Index Rank: 75 (out of 134) Score: 45.57

Pillar/sub-pillar	Rank	Score
A. Technology pillar	62	41.37
1st sub-pillar: Access	72	62.69
2nd sub-pillar: Content	98	16.46
3rd sub-pillar: Future Technologies	35	44.98
B. People pillar	72	42.13
1st sub-pillar: Individuals	89	41.16
2nd sub-pillar: Businesses	77	41.98
3rd sub-pillar: Governments	52	43.25

Pillar/sub-pillar	Rank	Score
C. Governance pillar	88	48.46
1st sub-pillar: Trust	76	37.95
2nd sub-pillar: Regulation	103	55.44
3rd sub-pillar: Inclusion	90	52.00
D. Impact pillar	84	50.30
1st sub-pillar: Economy	81	23.67
2nd sub-pillar: Quality of Life	78	65.77
3rd sub-pillar: SDG Contribution	72	61.48

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	62	41.37	
1st sub-pillar: Access	72	62.69	
1.1.1 Mobile tariffs	55	67.28	
1.1.2 Handset prices	79	41.13	
1.1.3 FTTH/building Internet subscriptions	60	30.16	
1.1.4 Population covered by at least a 3G mobile network	40	99.93	●
1.1.5 International Internet bandwidth	54	73.31	
1.1.6 Internet access in schools	48	64.32	
2nd sub-pillar: Content	98	16.46	
1.2.1 GitHub commits	74	4.40	
1.2.2 Internet domain registrations	93	1.38	
1.2.3 Mobile apps development	92	57.73	
1.2.4 AI scientific publications	84	2.31	
3rd sub-pillar: Future Technologies	35	44.98	
1.3.1 Adoption of emerging technologies	34	62.72	●
1.3.2 Investment in emerging technologies	23	67.00	●

Indicator	Rank	Score	
C. Governance pillar	88	48.46	
1st sub-pillar: Trust	76	37.95	
3.1.1 Secure Internet servers	84	45.49	
3.1.2 Cybersecurity	48	89.12	●
3.1.3 Online access to financial account	117	6.93	○
3.1.4 Internet shopping	90	10.25	
2nd sub-pillar: Regulation	103	55.44	
3.2.1 Regulatory quality	73	48.25	
3.2.2 ICT regulatory environment	117	59.41	○
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	102	47.42	
3rd sub-pillar: Inclusion	90	52.00	
3.3.1 E-Participation	89	37.21	
3.3.2 Socioeconomic gap in use of digital payments	98	54.39	
3.3.3 Availability of local online content	24	85.10	●

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	101	5.21	
B. People pillar	72	42.13	
1st sub-pillar: Individuals	89	41.16	
2.1.1 Mobile broadband internet traffic within the country	88	4.47	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	100	36.46	
2.1.4 Tertiary enrollment	78	23.97	
2.1.5 Adult literacy rate	8	99.72	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	77	41.98	
2.2.1 Firms with website	41	65.50	●
2.2.2 GERD financed by business enterprise	56	38.07	
2.2.3 Knowledge intensive employment	59	33.37	
2.2.4 Annual investment in telecommunication services	101	72.85	
2.2.5 GERD performed by business enterprise	87	0.09	○
3rd sub-pillar: Governments	52	43.25	
2.3.1 Government online services	81	57.11	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	20	69.05	●
2.3.4 R&D expenditure by governments and higher education	88	3.59	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	78	62.58	
3.3.5 Rural gap in use of digital payments	118	20.72	○
D. Impact pillar	84	50.30	
1st sub-pillar: Economy	81	23.67	
4.1.1 High-tech and medium-high-tech manufacturing	83	13.66	
4.1.2 High-tech exports	97	3.56	
4.1.3 PCT patent applications	85	0.92	
4.1.4 Domestic market size	74	50.08	
4.1.5 Prevalence of gig economy	16	70.06	●
4.1.6 ICT services exports	103	3.72	
2nd sub-pillar: Quality of Life	78	65.77	
4.2.1 Happiness	89	52.47	
4.2.2 Freedom to make life choices	49	79.84	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	90	65.00	
3rd sub-pillar: SDG Contribution	72	61.48	
4.3.1 SDG 3: Good Health and Well-Being	87	60.63	
4.3.2 SDG 4: Quality Education	62	27.81	
4.3.3 SDG 5: Women's economic opportunity	88	69.91	
4.3.4 SDG 7: Affordable and Clean Energy	76	69.22	
4.3.5 SDG 11: Sustainable Cities and Communities	38	79.80	●

NOTE: ● a strength and ○ a weakness.

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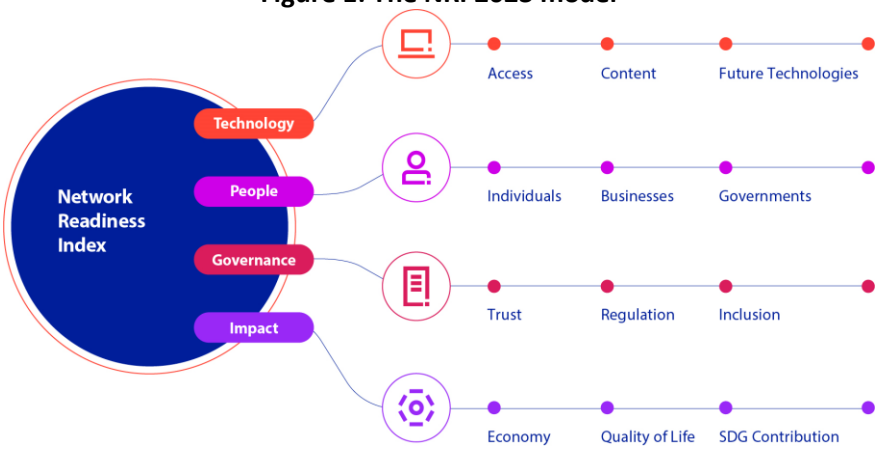
Bahrain

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

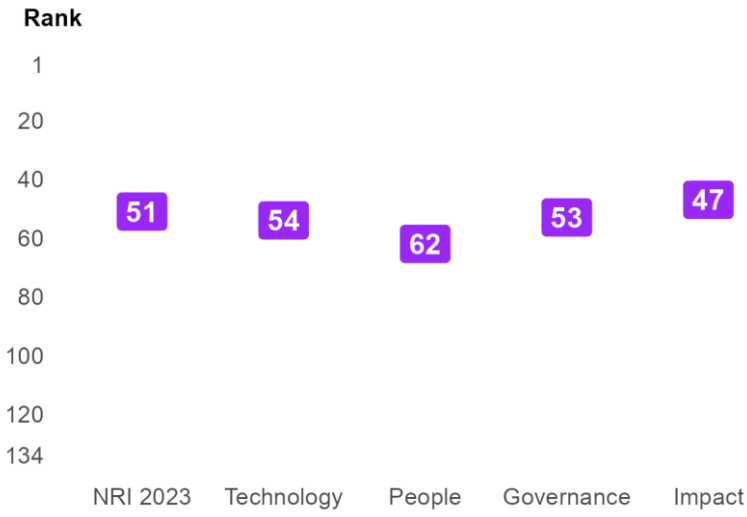
Figure 1: The NRI 2023 model



Global NRI position of Bahrain

Bahrain ranks 51st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Bahrain global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bahrain relate to Individuals, Quality of Life and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Content and Businesses sub-pillars.

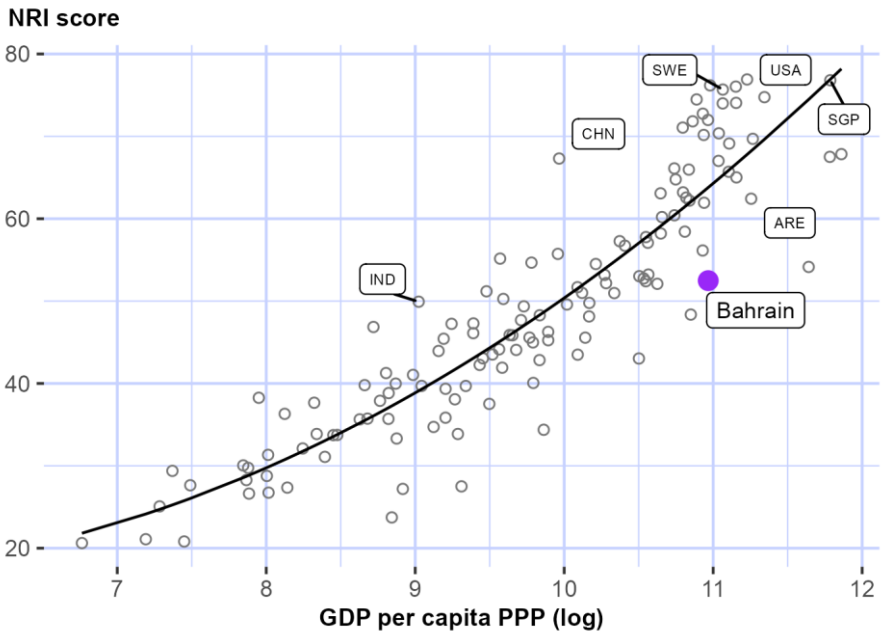
Table 1: Bahrain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	9	Governments	61
Quality of Life	29	SDG Contribution	61
Future Technologies	31	Trust	62
Inclusion	47	Economy	68
Regulation	51	Content	93
Access	59	Businesses	98

NRI score and income

Figure 3 shows the position of Bahrain in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bahrain is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bahrain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Bahrain is ranked 44th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Arab States

Bahrain is ranked 4th within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Bahrain against its income group and region, overall and by pillar

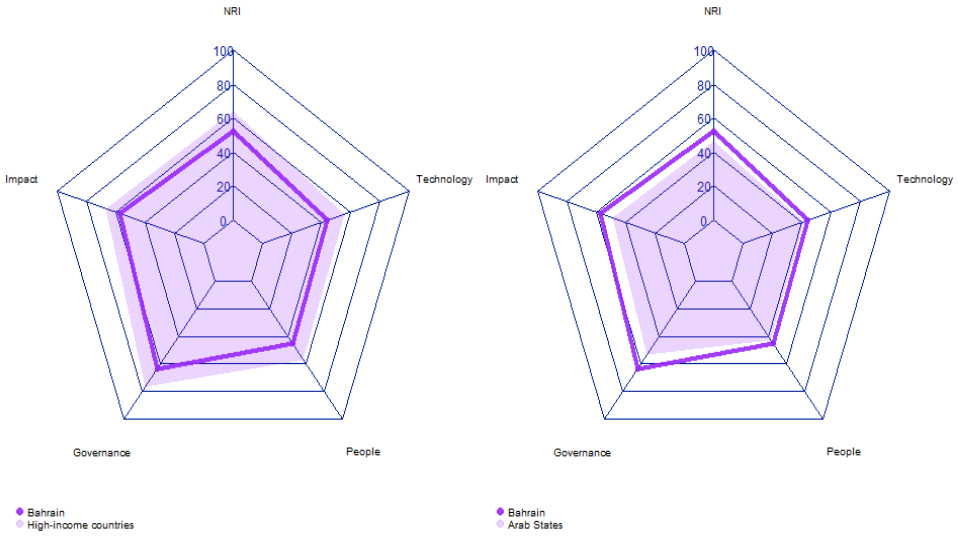


Table 2: Bahrain scores vs. averages of its income group and region, overall and by pillar

Dimension	Bahrain	High-income countries	Arab States
NRI	52.48	64.07	46.59
Technology	43.90	55.76	41.17
People	45.18	56.99	42.66
Governance	63.45	76.81	53.45
Impact	57.41	66.73	49.08

Strongest and weakest indicators

The indicators where Bahrain performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 3.2.5 Privacy protection by law content, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Bahrain

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.5 GERD performed by business enterprise	79
1.1.6 Internet access in schools	1	2.3.4 R&D expenditure by governments and higher education	105
3.2.4 E-commerce legislation	1	1.2.4 AI scientific publications	118
2.1.3 Use of virtual social networks	2	3.2.5 Privacy protection by law content	125
4.2.2 Freedom to make life choices	6	4.3.4 SDG 7: Affordable and Clean Energy	126
4.3.5 SDG 11: Sustainable Cities and Communities	8		
3.3.3 Availability of local online content	14		
2.3.3 Government promotion of investment in emerging technologies	18		
3.2.3 Regulation of emerging technologies	19		
4.1.5 Prevalence of gig economy	25		
4.1.6 ICT services exports	25		
3.3.5 Rural gap in use of digital payments	26		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Bahrain

Network Readiness Index Rank: 51 (out of 134) Score: 52.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	54	43.90
1st sub-pillar: Access	59	67.00
2nd sub-pillar: Content	93	17.82
3rd sub-pillar: Future Technologies	31	46.87
B. People pillar	62	45.18
1st sub-pillar: Individuals	9	61.42
2nd sub-pillar: Businesses	98	33.41
3rd sub-pillar: Governments	61	40.71

Pillar/sub-pillar	Rank	Score
C. Governance pillar	53	63.45
1st sub-pillar: Trust	62	48.66
2nd sub-pillar: Regulation	51	70.80
3rd sub-pillar: Inclusion	47	70.88
D. Impact pillar	47	57.41
1st sub-pillar: Economy	68	27.07
2nd sub-pillar: Quality of Life	29	79.50
3rd sub-pillar: SDG Contribution	61	65.66

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	54	43.90	
1st sub-pillar: Access	59	67.00	
1.1.1 Mobile tariffs	77	56.01	
1.1.2 Handset prices	50	57.39	
1.1.3 FTTH/building Internet subscriptions	101	13.35	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	44	75.24	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	93	17.82	
1.2.1 GitHub commits	60	8.40	
1.2.2 Internet domain registrations	72	3.28	
1.2.3 Mobile apps development	88	59.20	
1.2.4 AI scientific publications	118	0.40	○
3rd sub-pillar: Future Technologies	31	46.87	
1.3.1 Adoption of emerging technologies	30	65.71	
1.3.2 Investment in emerging technologies	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	53	63.45	
1st sub-pillar: Trust	62	48.66	
3.1.1 Secure Internet servers	73	48.77	
3.1.2 Cybersecurity	68	77.47	
3.1.3 Online access to financial account	46	40.00	
3.1.4 Internet shopping	61	28.38	
2nd sub-pillar: Regulation	51	70.80	
3.2.1 Regulatory quality	35	68.78	
3.2.2 ICT regulatory environment	64	84.12	
3.2.3 Regulation of emerging technologies	19	76.36	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	125	24.72	○
3rd sub-pillar: Inclusion	47	70.88	
3.3.1 E-Participation	85	43.03	
3.3.2 Socioeconomic gap in use of digital payments	66	75.64	
3.3.3 Availability of local online content	14	88.94	●

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	45	28.03	
B. People pillar	62	45.18	
1st sub-pillar: Individuals	9	61.42	
2.1.1 Mobile broadband internet traffic within the country	64	9.99	
2.1.2 ICT skills in the education system	24	72.08	
2.1.3 Use of virtual social networks	2	93.84	●
2.1.4 Tertiary enrollment	48	41.72	
2.1.5 Adult literacy rate	60	89.49	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	98	33.41	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	65	26.93	
2.2.3 Knowledge intensive employment	65	31.21	
2.2.4 Annual investment in telecommunication services	87	74.99	
2.2.5 GERD performed by business enterprise	79	0.51	○
3rd sub-pillar: Governments	61	40.71	
2.3.1 Government online services	54	72.62	
2.3.2 Publication and use of open data	76	17.65	
2.3.3 Government promotion of investment in emerging tech	18	70.91	●
2.3.4 R&D expenditure by governments and higher education	105	1.64	○

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	26	71.55	
3.3.5 Rural gap in use of digital payments	26	75.26	●
D. Impact pillar	47	57.41	
1st sub-pillar: Economy	68	27.07	
4.1.1 High-tech and medium-high-tech manufacturing	91	10.40	
4.1.2 High-tech exports	81	7.82	
4.1.3 PCT patent applications	63	3.21	
4.1.4 Domestic market size	92	42.98	
4.1.5 Prevalence of gig economy	25	63.66	●
4.1.6 ICT services exports	25	34.35	●
2nd sub-pillar: Quality of Life	29	79.50	
4.2.1 Happiness	45	71.06	
4.2.2 Freedom to make life choices	6	94.98	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	67	72.47	
3rd sub-pillar: SDG Contribution	61	65.66	
4.3.1 SDG 3: Good Health and Well-Being	63	70.70	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	114	54.87	
4.3.4 SDG 7: Affordable and Clean Energy	126	40.61	○
4.3.5 SDG 11: Sustainable Cities and Communities	8	96.47	●

NOTE: ● a strength and ○ a weakness.

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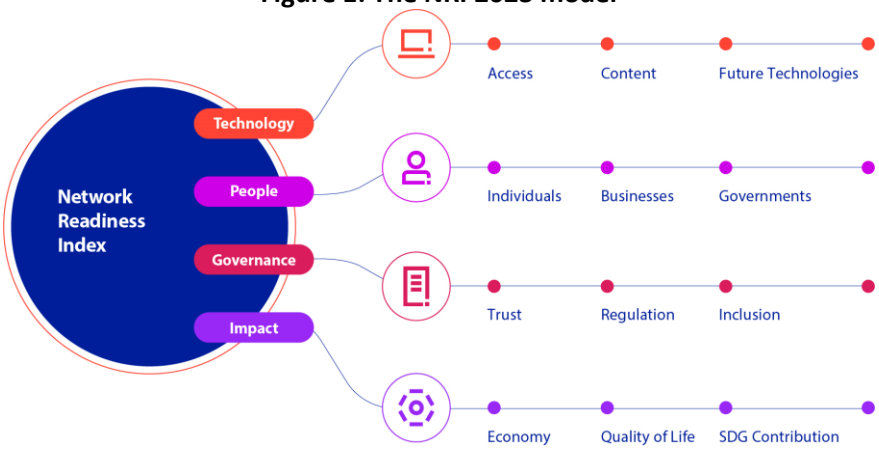
Bangladesh

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

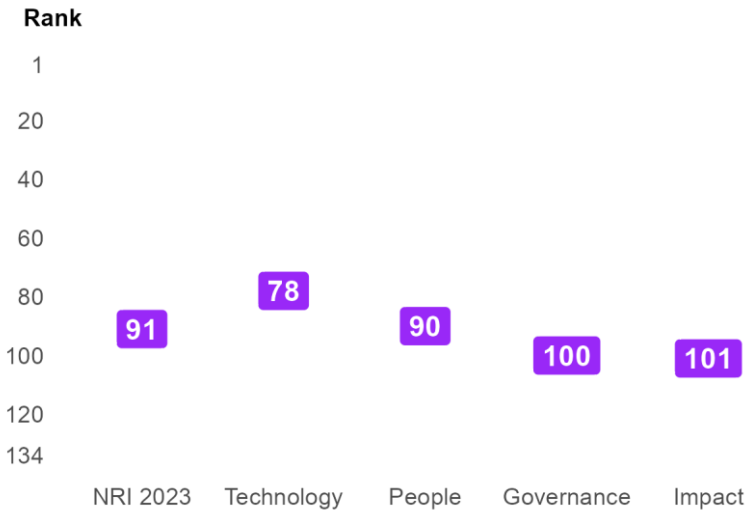
Figure 1: The NRI 2023 model



Global NRI position of Bangladesh

Bangladesh ranks 91st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Bangladesh global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bangladesh relate to Access, Content and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Regulation sub-pillars.

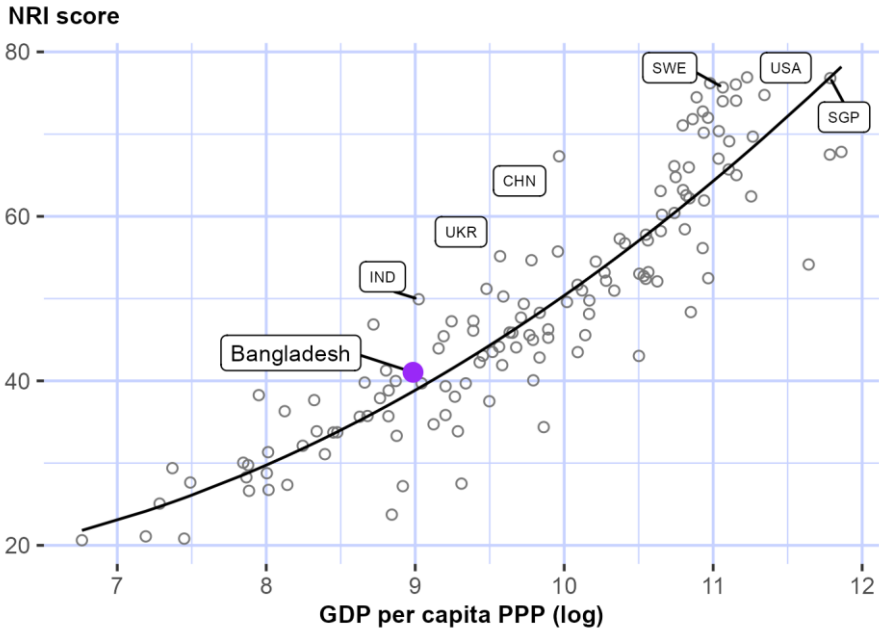
Table 1: Bangladesh rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	58	Quality of Life	90
Content	66	Businesses	96
Governments	73	Future Technologies	100
Inclusion	80	Individuals	101
Trust	87	SDG Contribution	115
Economy	88	Regulation	116

NRI score and income

Figure 3 shows the position of Bangladesh in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bangladesh is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bangladesh belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Bangladesh is ranked 15th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Access, Content, Governments, Trust, Inclusion and Quality of Life.

Asia & Pacific

Bangladesh is ranked 18th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Bangladesh against its income group and region, overall and by pillar

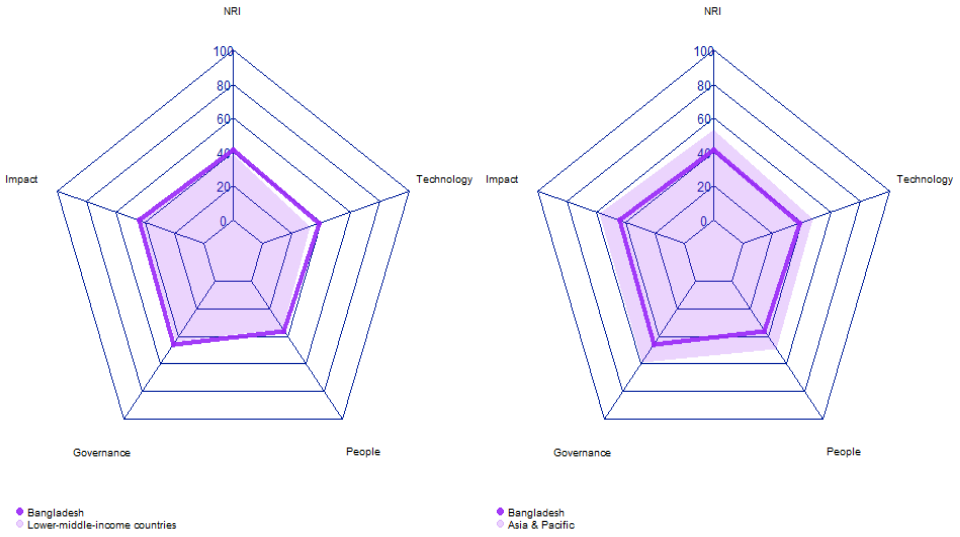


Table 2: Bangladesh scores vs. averages of its income group and region, overall and by pillar

Dimension	Bangladesh	Lower-middle-income countries	Asia & Pacific
NRI	41.04	38.41	53.28
Technology	38.23	32.12	47.34
People	35.85	34.38	48.95
Governance	45.94	43.27	59.22
Impact	44.14	43.89	57.62

Strongest and weakest indicators

The indicators where Bangladesh performs particularly well include 1.1.3 FTTH/building Internet subscriptions, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 4.3.3 SDG 5: Women's economic opportunity, and 4.2.1 Happiness.

Table 3: Highlight of Strengths and Opportunities for Bangladesh

Strongest indicators	Rank	Weakest indicators	Rank
1.1.3 FTTH/building Internet subscriptions	5	3.3.4 Gender gap in Internet use	100
4.3.4 SDG 7: Affordable and Clean Energy	15	3.1.4 Internet shopping	119
1.2.4 AI scientific publications	19	4.2.1 Happiness	124
2.1.1 Mobile broadband internet traffic within the country	21	4.1.2 High-tech exports	127
1.1.5 International Internet bandwidth	24	4.3.3 SDG 5: Women's economic opportunity	127
4.1.4 Domestic market size	24		
4.2.3 Income inequality	32		
3.3.5 Rural gap in use of digital payments	36		
4.2.2 Freedom to make life choices	43		
1.1.1 Mobile tariffs	44		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Bangladesh

Network Readiness Index Rank: 91 (out of 134) Score: 41.04

Pillar/sub-pillar	Rank	Score
A. Technology pillar	78	38.23
1st sub-pillar: Access	58	67.04
2nd sub-pillar: Content	66	22.90
3rd sub-pillar: Future Technologies	100	24.75
B. People pillar	90	35.85
1st sub-pillar: Individuals	101	36.27
2nd sub-pillar: Businesses	96	35.17
3rd sub-pillar: Governments	73	36.12

Pillar/sub-pillar	Rank	Score
C. Governance pillar	100	45.94
1st sub-pillar: Trust	87	34.28
2nd sub-pillar: Regulation	116	46.96
3rd sub-pillar: Inclusion	80	56.57
D. Impact pillar	101	44.14
1st sub-pillar: Economy	88	21.56
2nd sub-pillar: Quality of Life	90	61.31
3rd sub-pillar: SDG Contribution	115	49.56

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	78	38.23	
1st sub-pillar: Access	58	67.04	
1.1.1 Mobile tariffs	44	72.17	•
1.1.2 Handset prices	108	29.45	
1.1.3 FTTH/building Internet subscriptions	5	71.36	•
1.1.4 Population covered by at least a 3G mobile network	74	99.44	
1.1.5 International Internet bandwidth	24	80.53	•
1.1.6 Internet access in schools	52	49.30	
2nd sub-pillar: Content	66	22.90	
1.2.1 GitHub commits	97	2.31	
1.2.2 Internet domain registrations	119	0.22	
1.2.3 Mobile apps development	65	65.49	
1.2.4 AI scientific publications	19	23.59	•
3rd sub-pillar: Future Technologies	100	24.75	
1.3.1 Adoption of emerging technologies	107	27.75	
1.3.2 Investment in emerging technologies	99	29.00	

Indicator	Rank	Score	
C. Governance pillar	100	45.94	
1st sub-pillar: Trust	87	34.28	
3.1.1 Secure Internet servers	97	39.30	
3.1.2 Cybersecurity	61	80.94	
3.1.3 Online access to financial account	97	14.08	
3.1.4 Internet shopping	119	2.79	○
2nd sub-pillar: Regulation	116	46.96	
3.2.1 Regulatory quality	117	30.50	
3.2.2 ICT regulatory environment	117	59.41	
3.2.3 Regulation of emerging technologies	91	28.83	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	100	49.40	
3rd sub-pillar: Inclusion	80	56.57	
3.3.1 E-Participation	74	51.16	
3.3.2 Socioeconomic gap in use of digital payments	53	82.35	
3.3.3 Availability of local online content	88	50.00	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	75	17.51	
B. People pillar		90	35.85	
1st sub-pillar: Individuals		101	36.27	
2.1.1	Mobile broadband internet traffic within the country	21	36.94	●
2.1.2	ICT skills in the education system	77	40.77	
2.1.3	Use of virtual social networks	106	22.78	
2.1.4	Tertiary enrollment	91	15.10	
2.1.5	Adult literacy rate	88	65.74	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		96	35.17	
2.2.1	Firms with website	98	18.83	
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	110	9.07	
2.2.4	Annual investment in telecommunication services	69	77.59	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		73	36.12	
2.3.1	Government online services	74	61.55	
2.3.2	Publication and use of open data	86	11.76	
2.3.3	Government promotion of investment in emerging tech	71	35.04	
2.3.4	R&D expenditure by governments and higher education	NA	NA	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	100	25.62	○
3.3.5	Rural gap in use of digital payments	36	73.73	●
D. Impact pillar		101	44.14	
1st sub-pillar: Economy		88	21.56	
4.1.1	High-tech and medium-high-tech manufacturing	97	6.06	
4.1.2	High-tech exports	127	0.31	○
4.1.3	PCT patent applications	NA	NA	
4.1.4	Domestic market size	24	69.84	●
4.1.5	Prevalence of gig economy	103	24.42	
4.1.6	ICT services exports	90	7.18	
2nd sub-pillar: Quality of Life		90	61.31	
4.2.1	Happiness	124	19.62	○
4.2.2	Freedom to make life choices	43	81.56	●
4.2.3	Income inequality	32	76.88	●
4.2.4	Healthy life expectancy at birth	84	67.17	
3rd sub-pillar: SDG Contribution		115	49.56	
4.3.1	SDG 3: Good Health and Well-Being	109	36.88	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	127	28.32	○
4.3.4	SDG 7: Affordable and Clean Energy	15	82.30	●
4.3.5	SDG 11: Sustainable Cities and Communities	88	50.75	

NOTE: ● a strength and ○ a weakness.

Sources

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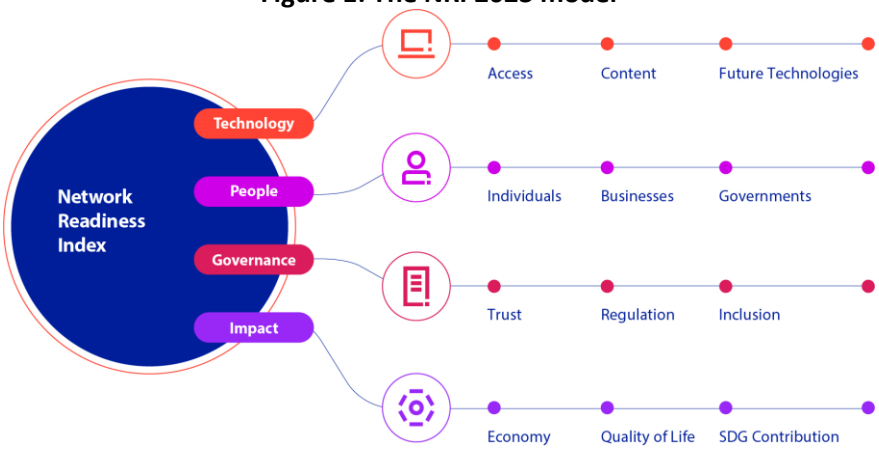
Belgium

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

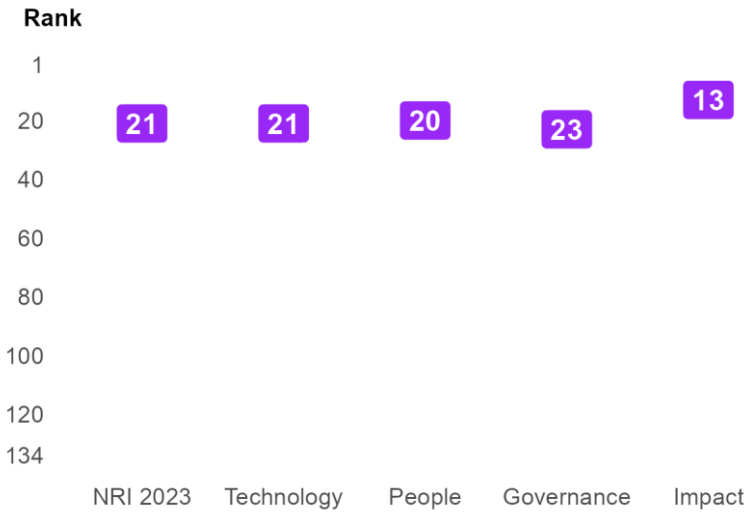
Figure 1: The NRI 2023 model



Global NRI position of Belgium

Belgium ranks 21st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Belgium global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Belgium relate to Businesses, Quality of Life and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Inclusion and Individuals sub-pillars.

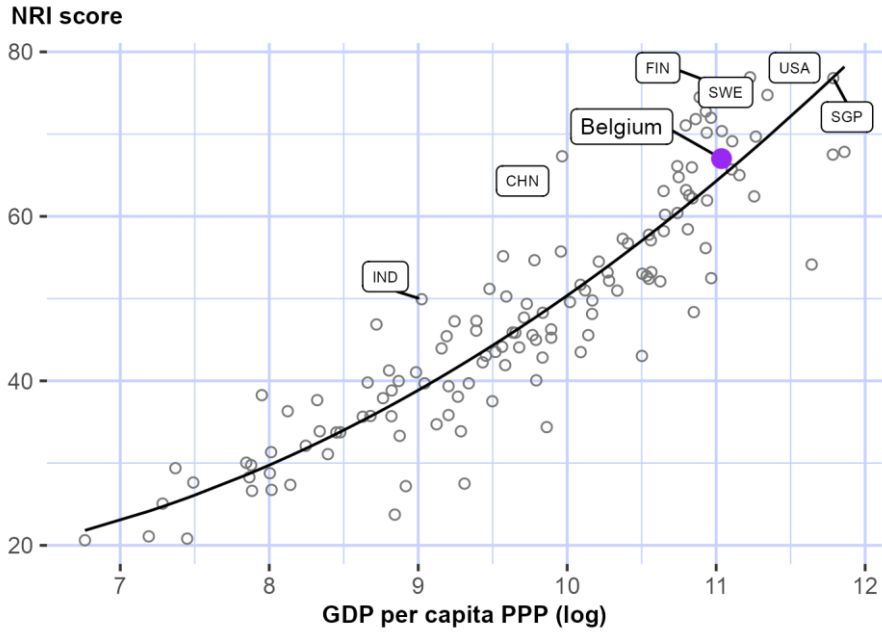
Table 1: Belgium rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	4	Economy	21
Quality of Life	8	Content	23
Trust	14	Regulation	24
SDG Contribution	17	Access	36
Future Technologies	21	Inclusion	39
Governments	21	Individuals	90

NRI score and income

Figure 3 shows the position of Belgium in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Belgium is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Belgium belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Belgium is ranked 20th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Europe

Belgium is ranked 14th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Belgium against its income group and region, overall and by pillar

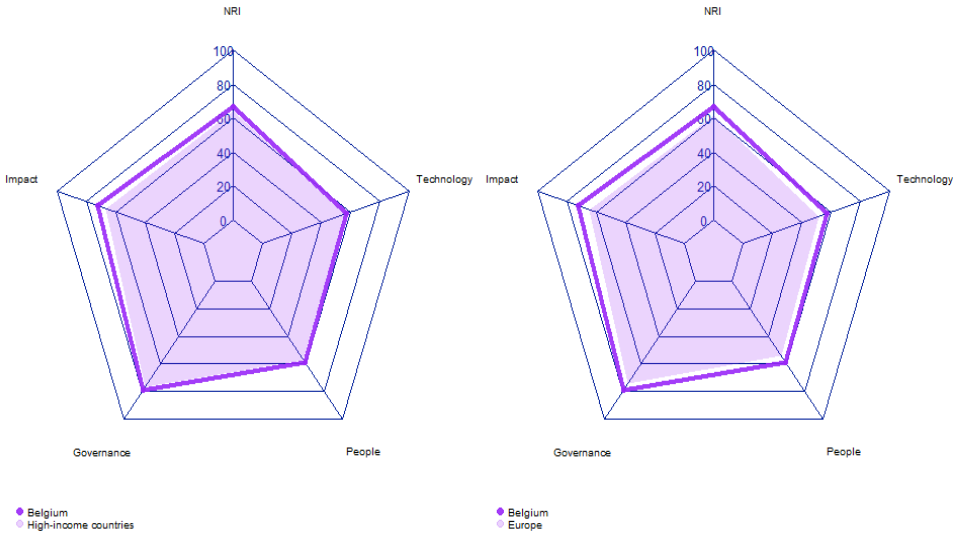


Table 2: Belgium scores vs. averages of its income group and region, overall and by pillar

Dimension	Belgium	High-income countries	Europe
NRI	67.02	64.07	61.25
Technology	57.11	55.76	51.90
People	59.10	56.99	54.16
Governance	79.40	76.81	74.33
Impact	72.47	66.73	64.61

Strongest and weakest indicators

The indicators where Belgium performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 3.2.4 E-commerce legislation, and 3.3.1 E-Participation.

Table 3: Highlight of Strengths and Opportunities for Belgium

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	37
1.1.6 Internet access in schools	1	1.2.3 Mobile apps development	80
4.3.3 SDG 5: Women's economic opportunity	1	3.3.1 E-Participation	82
2.2.5 GERD performed by business enterprise	5	3.2.4 E-commerce legislation	87
4.2.3 Income inequality	5	1.1.3 FTTH/building Internet subscriptions	104
2.3.4 R&D expenditure by governments and higher education	6		
2.2.1 Firms with website	7		
2.2.2 GERD financed by business enterprise	8		
3.2.3 Regulation of emerging technologies	8		
1.3.4 Computer software spending	10		
3.3.5 Rural gap in use of digital payments	10		
2.2.3 Knowledge intensive employment	12		
3.1.3 Online access to financial account	13		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Belgium

Network Readiness Index Rank: 21 (out of 134) Score: 67.02

Pillar/sub-pillar	Rank	Score
A. Technology pillar	21	57.11
1st sub-pillar: Access	36	72.75
2nd sub-pillar: Content	23	45.17
3rd sub-pillar: Future Technologies	21	53.41
B. People pillar	20	59.10
1st sub-pillar: Individuals	90	41.13
2nd sub-pillar: Businesses	4	78.33
3rd sub-pillar: Governments	21	57.84

Pillar/sub-pillar	Rank	Score
C. Governance pillar	23	79.40
1st sub-pillar: Trust	14	82.15
2nd sub-pillar: Regulation	24	81.79
3rd sub-pillar: Inclusion	39	74.27
D. Impact pillar	13	72.47
1st sub-pillar: Economy	21	45.60
2nd sub-pillar: Quality of Life	8	87.67
3rd sub-pillar: SDG Contribution	17	84.14

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	21	57.11	
1st sub-pillar: Access	36	72.75	
1.1.1 Mobile tariffs	28	80.45	
1.1.2 Handset prices	32	69.58	
1.1.3 FTTH/building Internet subscriptions	104	12.03	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	49	74.45	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	23	45.17	
1.2.1 GitHub commits	17	57.73	
1.2.2 Internet domain registrations	17	47.69	
1.2.3 Mobile apps development	80	62.20	○
1.2.4 AI scientific publications	39	13.05	
3rd sub-pillar: Future Technologies	21	53.41	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	21	67.50	

Indicator	Rank	Score	
C. Governance pillar	23	79.40	
1st sub-pillar: Trust	14	82.15	
3.1.1 Secure Internet servers	28	80.55	
3.1.2 Cybersecurity	26	96.18	
3.1.3 Online access to financial account	13	73.15	●
3.1.4 Internet shopping	16	78.72	
2nd sub-pillar: Regulation	24	81.79	
3.2.1 Regulatory quality	22	79.93	
3.2.2 ICT regulatory environment	26	92.94	
3.2.3 Regulation of emerging technologies	8	82.34	●
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	16	87.07	
3rd sub-pillar: Inclusion	39	74.27	
3.3.1 E-Participation	82	44.18	○
3.3.2 Socioeconomic gap in use of digital payments	23	95.02	
3.3.3 Availability of local online content	25	84.62	

Indicator	Rank	Score	
1.3.3 Robot density	15	29.47	
1.3.4 Computer software spending	10	63.25	●
B. People pillar	20	59.10	
1st sub-pillar: Individuals	90	41.13	
2.1.1 Mobile broadband internet traffic within the country	62	10.21	
2.1.2 ICT skills in the education system	42	57.43	
2.1.3 Use of virtual social networks	29	76.44	
2.1.4 Tertiary enrollment	22	52.76	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	37	8.80	○
2nd sub-pillar: Businesses	4	78.33	
2.2.1 Firms with website	7	89.09	●
2.2.2 GERD financed by business enterprise	8	79.53	●
2.2.3 Knowledge intensive employment	12	75.62	●
2.2.4 Annual investment in telecommunication services	27	85.31	
2.2.5 GERD performed by business enterprise	5	62.12	●
3rd sub-pillar: Governments	21	57.84	
2.3.1 Government online services	67	65.73	
2.3.2 Publication and use of open data	27	50.00	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	6	57.79	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	45	69.45	
3.3.5 Rural gap in use of digital payments	10	78.08	●
D. Impact pillar	13	72.47	
1st sub-pillar: Economy	21	45.60	
4.1.1 High-tech and medium-high-tech manufacturing	18	57.40	
4.1.2 High-tech exports	26	33.02	
4.1.3 PCT patent applications	17	45.05	
4.1.4 Domestic market size	36	63.80	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	32	28.74	
2nd sub-pillar: Quality of Life	8	87.67	
4.2.1 Happiness	18	83.78	
4.2.2 Freedom to make life choices	30	85.77	
4.2.3 Income inequality	5	92.96	●
4.2.4 Healthy life expectancy at birth	26	88.15	
3rd sub-pillar: SDG Contribution	17	84.14	
4.3.1 SDG 3: Good Health and Well-Being	15	93.69	
4.3.2 SDG 4: Quality Education	19	67.69	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	64	72.54	
4.3.5 SDG 11: Sustainable Cities and Communities	28	86.75	

NOTE: ● a strength and ○ a weakness.

Sources

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Benin

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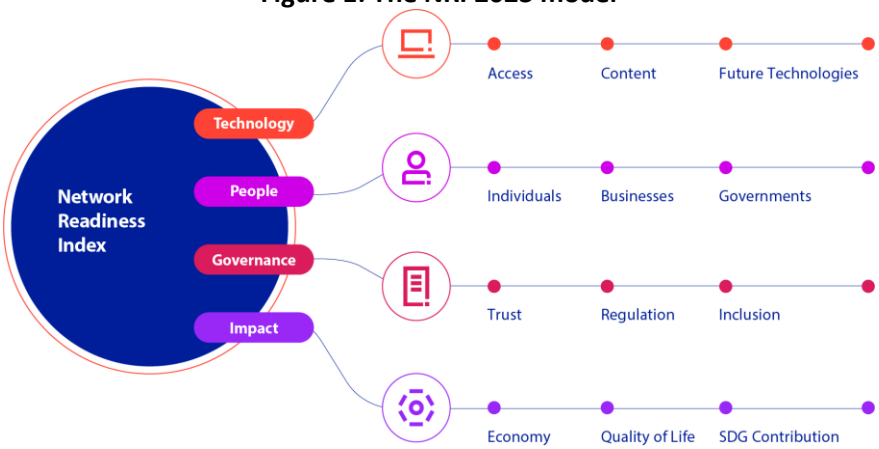
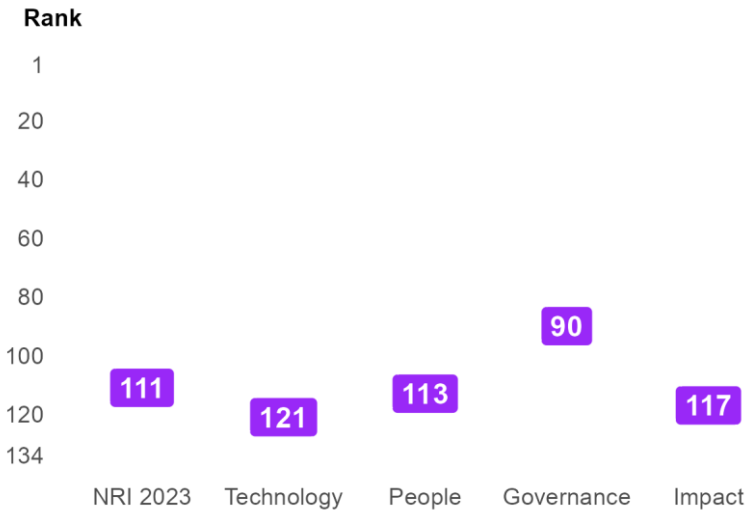
Figure 1: The NRI 2023 model



Global NRI position of Benin

Benin ranks 111th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Benin global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Benin relate to Regulation, Trust and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, SDG Contribution and Individuals sub-pillars.

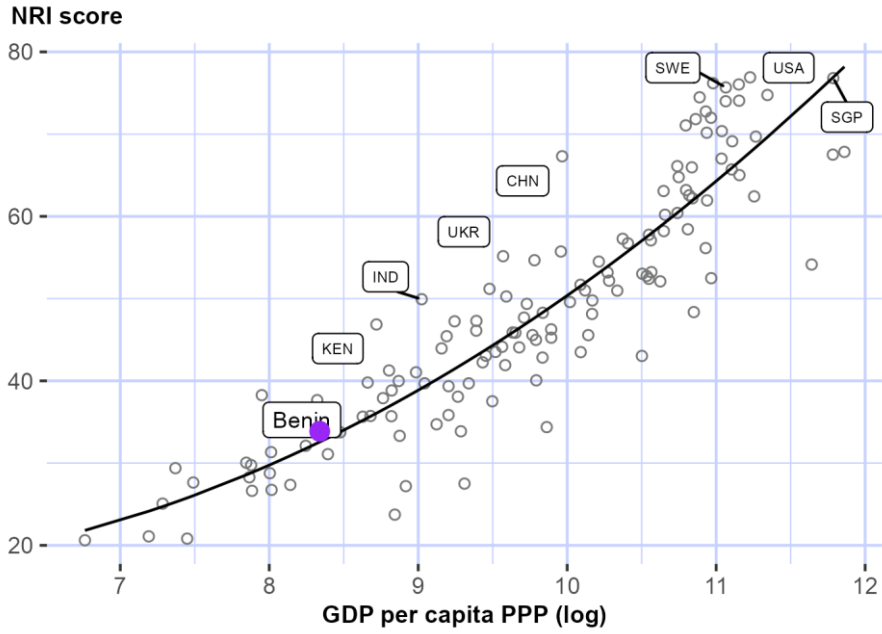
Table 1: Benin rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	62	Access	114
Trust	86	Quality of Life	114
Businesses	88	Content	118
Governments	93	Future Technologies	120
Economy	105	SDG Contribution	121
Inclusion	107	Individuals	127

NRI score and income

Figure 3 shows the position of Benin in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Benin is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Benin belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Benin is ranked 29th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Governance. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Businesses, Governments, Trust and Regulation.

Africa

Benin is ranked 12th within Africa (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Benin against its income group and region, overall and by pillar

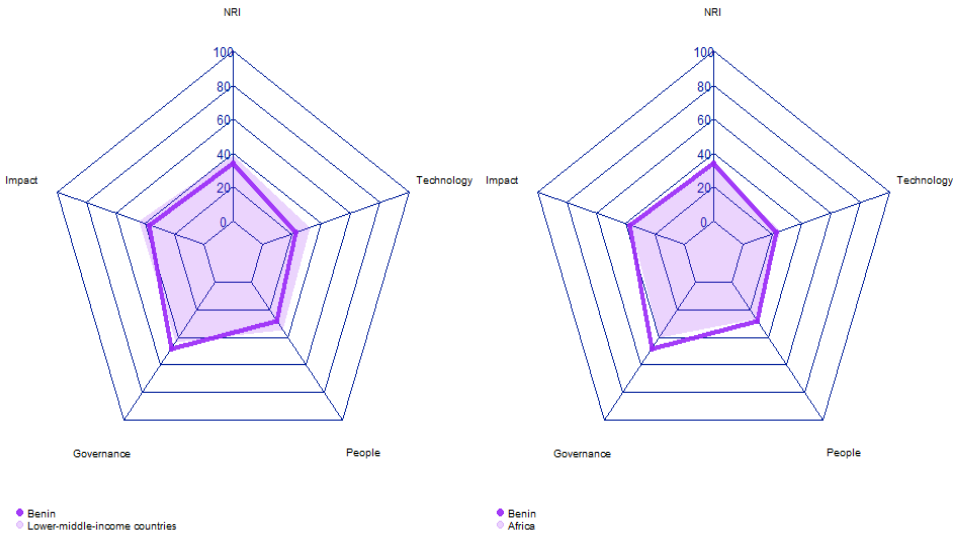


Table 2: Benin scores vs. averages of its income group and region, overall and by pillar

Dimension	Benin	Lower-middle-income countries	Africa
NRI	33.87	38.41	32.14
Technology	22.49	32.12	25.14
People	27.88	34.38	26.19
Governance	48.29	43.27	40.44
Impact	36.81	43.89	36.77

Strongest and weakest indicators

The indicators where Benin performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.1.5 Prevalence of gig economy (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.3.1 SDG 3: Good Health and Well-Being, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Highlight of Strengths and Opportunities for Benin

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.5 Adult literacy rate	103
3.2.5 Privacy protection by law content	20	1.2.3 Mobile apps development	117
4.1.5 Prevalence of gig economy	60	4.3.5 SDG 11: Sustainable Cities and Communities	123
3.1.3 Online access to financial account	62	4.3.1 SDG 3: Good Health and Well-Being	129
3.2.3 Regulation of emerging technologies	62	4.1.6 ICT services exports	134
3.1.2 Cybersecurity	64		
4.2.3 Income inequality	65		
4.3.3 SDG 5: Women's economic opportunity	69		
2.3.3 Government promotion of investment in emerging technologies	79		
3.3.5 Rural gap in use of digital payments	84		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Benin

Network Readiness Index Rank: 111 (out of 134) Score: 33.87

Pillar/sub-pillar	Rank	Score
A. Technology pillar	121	22.49
1st sub-pillar: Access	114	42.56
2nd sub-pillar: Content	118	7.39
3rd sub-pillar: Future Technologies	120	17.52
B. People pillar	113	27.88
1st sub-pillar: Individuals	127	17.33
2nd sub-pillar: Businesses	88	36.91
3rd sub-pillar: Governments	93	29.39

Pillar/sub-pillar	Rank	Score
C. Governance pillar	90	48.29
1st sub-pillar: Trust	86	34.30
2nd sub-pillar: Regulation	62	66.89
3rd sub-pillar: Inclusion	107	43.67
D. Impact pillar	117	36.81
1st sub-pillar: Economy	105	17.41
2nd sub-pillar: Quality of Life	114	48.07
3rd sub-pillar: SDG Contribution	121	44.96

The Network Readiness Index in detail

Indicator	Rank	Score
A. Technology pillar	121	22.49
1st sub-pillar: Access	114	42.56
1.1.1 Mobile tariffs	120	21.44
1.1.2 Handset prices	111	27.99
1.1.3 FTTH/building Internet subscriptions	114	6.45
1.1.4 Population covered by at least a 3G mobile network	122	92.27
1.1.5 International Internet bandwidth	99	64.66
1.1.6 Internet access in schools	NA	NA
2nd sub-pillar: Content	118	7.39
1.2.1 GitHub commits	115	0.88
1.2.2 Internet domain registrations	114	0.33
1.2.3 Mobile apps development	117	26.89 ○
1.2.4 AI scientific publications	96	1.45
3rd sub-pillar: Future Technologies	120	17.52
1.3.1 Adoption of emerging technologies	110	26.30
1.3.2 Investment in emerging technologies	116	22.00

Indicator	Rank	Score
C. Governance pillar	90	48.29
1st sub-pillar: Trust	86	34.30
3.1.1 Secure Internet servers	123	22.89
3.1.2 Cybersecurity	64	79.71 ●
3.1.3 Online access to financial account	62	30.59 ●
3.1.4 Internet shopping	114	4.03
2nd sub-pillar: Regulation	62	66.89
3.2.1 Regulatory quality	93	39.85
3.2.2 ICT regulatory environment	110	64.71
3.2.3 Regulation of emerging technologies	62	44.68 ●
3.2.4 E-commerce legislation	1	100.00 ●
3.2.5 Privacy protection by law content	20	85.19 ●
3rd sub-pillar: Inclusion	107	43.67
3.3.1 E-Participation	98	32.56
3.3.2 Socioeconomic gap in use of digital payments	89	58.72
3.3.3 Availability of local online content	113	29.57

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	103	4.26	
B. People pillar	113	27.88	
1st sub-pillar: Individuals	127	17.33	
2.1.1 Mobile broadband internet traffic within the country	91	3.34	
2.1.2 ICT skills in the education system	72	44.85	
2.1.3 Use of virtual social networks	122	6.74	
2.1.4 Tertiary enrollment	109	5.65	
2.1.5 Adult literacy rate	103	26.05	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	88	36.91	
2.2.1 Firms with website	88	33.27	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	117	5.39	
2.2.4 Annual investment in telecommunication services	103	72.07	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	93	29.39	
2.3.1 Government online services	94	47.45	
2.3.2 Publication and use of open data	96	7.35	
2.3.3 Government promotion of investment in emerging tech	79	33.36	●
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	84	53.85	●
D. Impact pillar	117	36.81	
1st sub-pillar: Economy	105	17.41	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	89	4.77	
4.1.3 PCT patent applications	88	0.77	
4.1.4 Domestic market size	105	37.92	
4.1.5 Prevalence of gig economy	60	43.60	●
4.1.6 ICT services exports	134	0.00	○
2nd sub-pillar: Quality of Life	114	48.07	
4.2.1 Happiness	111	34.69	
4.2.2 Freedom to make life choices	103	56.50	
4.2.3 Income inequality	65	63.32	●
4.2.4 Healthy life expectancy at birth	118	37.78	
3rd sub-pillar: SDG Contribution	121	44.96	
4.3.1 SDG 3: Good Health and Well-Being	129	16.39	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	69	76.99	●
4.3.4 SDG 7: Affordable and Clean Energy	107	56.29	
4.3.5 SDG 11: Sustainable Cities and Communities	123	30.17	○

NOTE: ● a strength and ○ a weakness.

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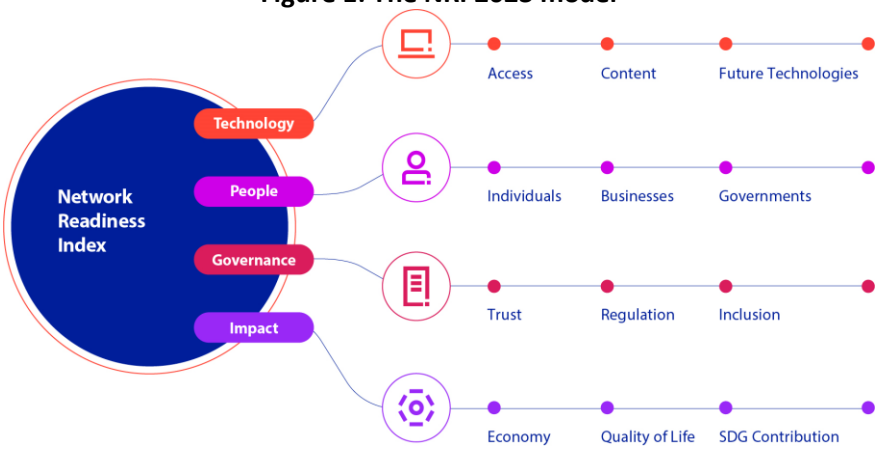
Bolivia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

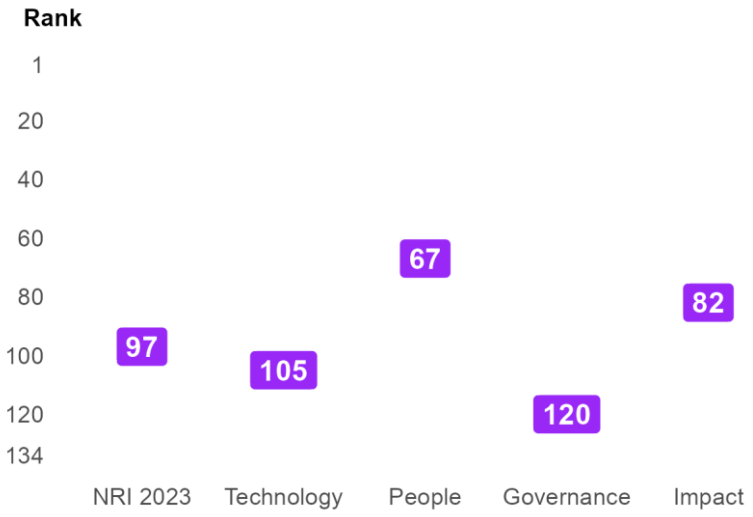
Figure 1: The NRI 2023 model



Global NRI position of Bolivia

Bolivia ranks 97th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Bolivia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bolivia relate to Individuals, SDG Contribution and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Regulation sub-pillars.

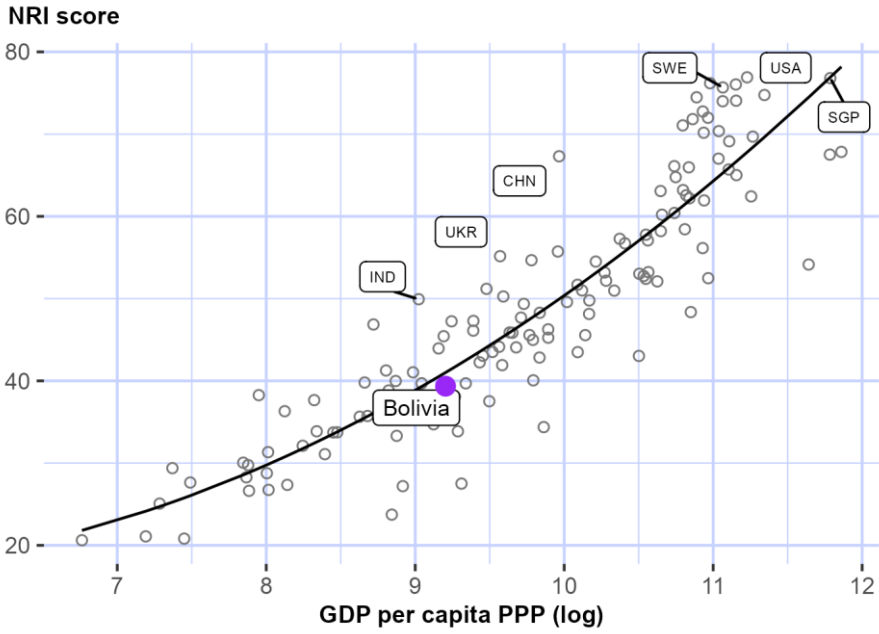
Table 1: Bolivia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	24	Governments	99
SDG Contribution	52	Future Technologies	105
Businesses	59	Content	114
Quality of Life	72	Trust	116
Inclusion	95	Economy	117
Access	99	Regulation	122

NRI score and income

Figure 3 shows the position of Bolivia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bolivia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bolivia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

Bolivia is ranked 19th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, People and Impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Individuals, Businesses, Inclusion, Quality of Life and SDG Contribution.

The Americas

Bolivia is ranked 17th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Individuals and Businesses.

Figure 4: Performance of Bolivia against its income group and region, overall and by pillar

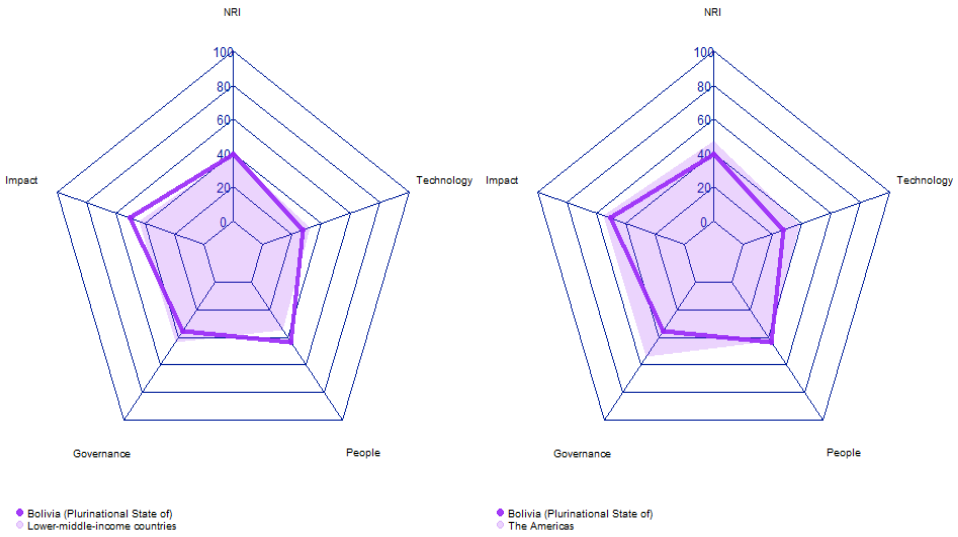


Table 2: Bolivia scores vs. averages of its income group and region, overall and by pillar

Dimension	Bolivia	Lower-middle-income countries	The Americas
NRI	39.35	38.41	47.41
Technology	27.60	32.12	38.24
People	43.53	34.38	42.35
Governance	35.73	43.27	54.12
Impact	50.54	43.89	54.93

Strongest and weakest indicators

The indicators where Bolivia performs particularly well include 1.1.3 FTTH/building Internet subscriptions, 3.3.5 Rural gap in use of digital payments, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.2.1 Regulatory quality, and 4.1.5 Prevalence of gig economy.

Table 3: Highlight of Strengths and Opportunities for Bolivia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.3 FTTH/building Internet subscriptions	24	3.2.3 Regulation of emerging technologies	115
3.3.5 Rural gap in use of digital payments	37	3.2.4 E-commerce legislation	121
4.2.2 Freedom to make life choices	42	2.3.3 Government promotion of investment in emerging technologies	122
4.3.3 SDG 5: Women's economic opportunity	44	4.1.5 Prevalence of gig economy	123
1.3.4 Computer software spending	50	3.2.1 Regulatory quality	128
2.1.5 Adult literacy rate	58	1.3.2 Investment in emerging technologies	129
4.2.1 Happiness	61		
3.2.5 Privacy protection by law content	64		
4.3.4 SDG 7: Affordable and Clean Energy	71		
4.3.5 SDG 11: Sustainable Cities and Communities	75		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Bolivia

Network Readiness Index Rank: 97 (out of 134) Score: 39.35

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	105	27.60	C. Governance pillar	120	35.73
1st sub-pillar: Access	99	49.42	1st sub-pillar: Trust	116	20.60
2nd sub-pillar: Content	114	11.43	2nd sub-pillar: Regulation	122	38.11
3rd sub-pillar: Future Technologies	105	21.93	3rd sub-pillar: Inclusion	95	48.47
B. People pillar	67	43.53	D. Impact pillar	82	50.54
1st sub-pillar: Individuals	24	56.74	1st sub-pillar: Economy	117	14.91
2nd sub-pillar: Businesses	59	47.18	2nd sub-pillar: Quality of Life	72	66.85
3rd sub-pillar: Governments	99	26.66	3rd sub-pillar: SDG Contribution	52	69.87

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	105	27.60		**C. Governance pillar**	120	35.73	
1st sub-pillar: Access	99	49.42		*1st sub-pillar: Trust*	116	20.60	
1.1.1 Mobile tariffs	91	47.23		3.1.1 Secure Internet servers	91	42.48	
1.1.2 Handset prices	105	30.40		3.1.2 Cybersecurity	123	14.66	
1.1.3 FTTH/building Internet subscriptions	24	46.20	•	3.1.3 Online access to financial account	102	12.41	
1.1.4 Population covered by at least a 3G mobile network	109	95.60		3.1.4 Internet shopping	83	12.86	
1.1.5 International Internet bandwidth	76	69.60		*2nd sub-pillar: Regulation*	122	38.11	
1.1.6 Internet access in schools	75	7.52		3.2.1 Regulatory quality	128	23.53	○
2nd sub-pillar: Content	114	11.43		3.2.2 ICT regulatory environment	111	64.12	
1.2.1 GitHub commits	88	3.20		3.2.3 Regulation of emerging technologies	115	3.38	○
1.2.2 Internet domain registrations	95	1.09		3.2.4 E-commerce legislation	121	33.33	○
1.2.3 Mobile apps development	112	40.40		3.2.5 Privacy protection by law content	64	66.21	•
1.2.4 AI scientific publications	103	1.04		*3rd sub-pillar: Inclusion*	95	48.47	
3rd sub-pillar: Future Technologies	105	21.93		3.3.1 E-Participation	102	30.24	
1.3.1 Adoption of emerging technologies	106	27.75		3.3.2 Socioeconomic gap in use of digital payments	106	49.89	
1.3.2 Investment in emerging technologies	129	12.00	○	3.3.3 Availability of local online content	115	28.37	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	50	26.05	●
B. People pillar	67	43.53	
1st sub-pillar: Individuals	24	56.74	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	99	21.63	
2.1.3 Use of virtual social networks	77	56.99	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	58	91.61	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	59	47.18	
2.2.1 Firms with website	65	46.10	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	89	18.21	
2.2.4 Annual investment in telecommunication services	70	77.25	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	99	26.66	
2.3.1 Government online services	95	46.87	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	122	6.64	○
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	83	60.43	
3.3.5 Rural gap in use of digital payments	37	73.42	●
D. Impact pillar	82	50.54	
1st sub-pillar: Economy	117	14.91	
4.1.1 High-tech and medium-high-tech manufacturing	85	11.38	
4.1.2 High-tech exports	79	8.00	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	86	46.02	
4.1.5 Prevalence of gig economy	123	4.94	○
4.1.6 ICT services exports	101	4.20	
2nd sub-pillar: Quality of Life	72	66.85	
4.2.1 Happiness	61	66.52	●
4.2.2 Freedom to make life choices	42	81.63	●
4.2.3 Income inequality	84	55.53	
4.2.4 Healthy life expectancy at birth	91	63.74	
3rd sub-pillar: SDG Contribution	52	69.87	
4.3.1 SDG 3: Good Health and Well-Being	84	63.05	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	44	84.07	●
4.3.4 SDG 7: Affordable and Clean Energy	71	71.10	●
4.3.5 SDG 11: Sustainable Cities and Communities	75	61.26	●

NOTE: ● a strength and ○ a weakness.

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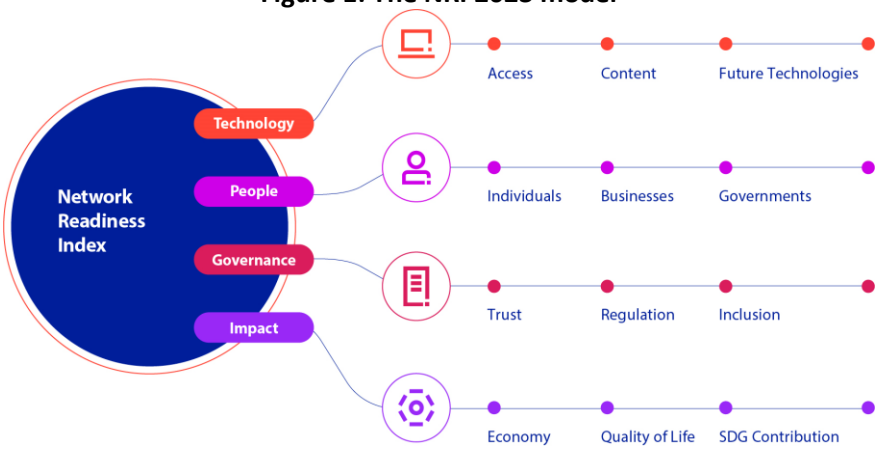
Bosnia and Herzegovina

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

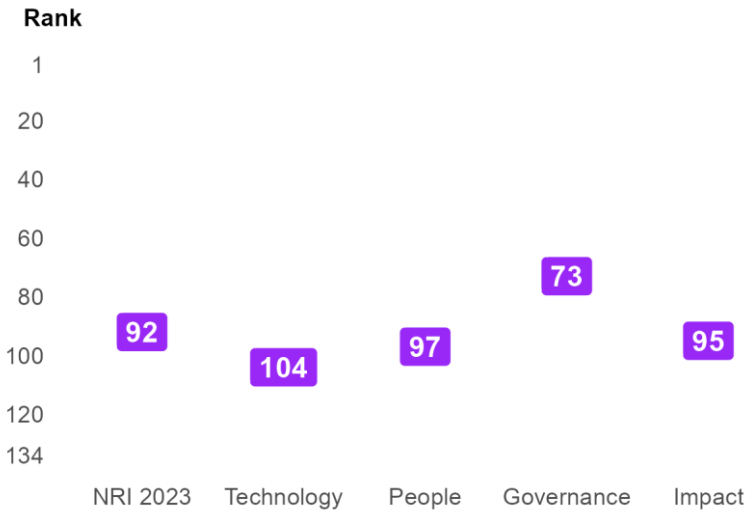
Figure 1: The NRI 2023 model



Global NRI position of Bosnia and Herzegovina

Bosnia and Herzegovina ranks 92nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Bosnia and Herzegovina global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bosnia and Herzegovina relate to Inclusion, Quality of Life and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Governments and Future Technologies sub-pillars.

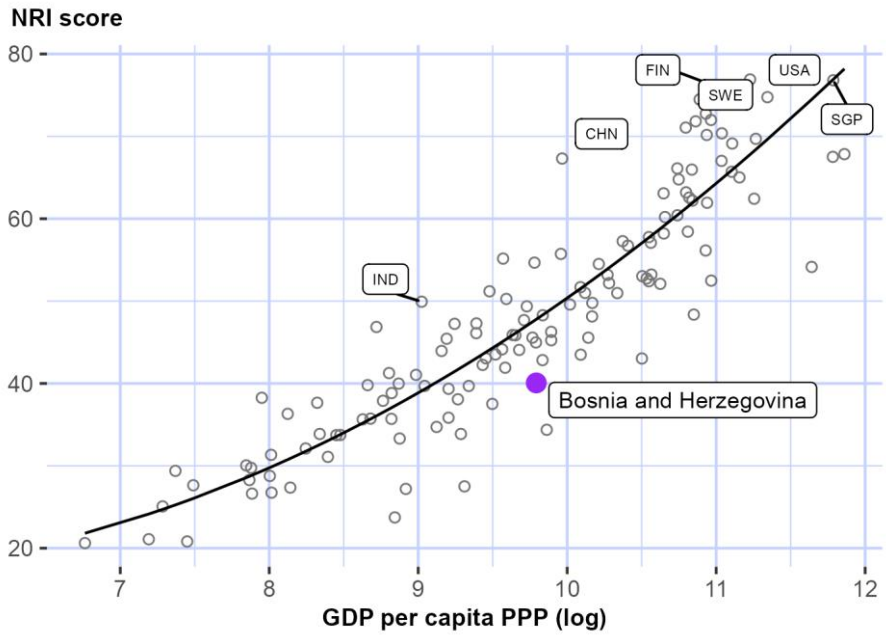
Table 1: Bosnia and Herzegovina rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	64	Access	95
Quality of Life	68	Economy	100
Regulation	69	Content	102
Businesses	71	SDG Contribution	112
Trust	84	Governments	123
Individuals	91	Future Technologies	128

NRI score and income

Figure 3 shows the position of Bosnia and Herzegovina in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bosnia and Herzegovina is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bosnia and Herzegovina belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Bosnia and Herzegovina is ranked 29th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Businesses, Regulation, Inclusion and Quality of Life.

Europe

Bosnia and Herzegovina is ranked 41st within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Bosnia and Herzegovina against its income group and region, overall and by pillar

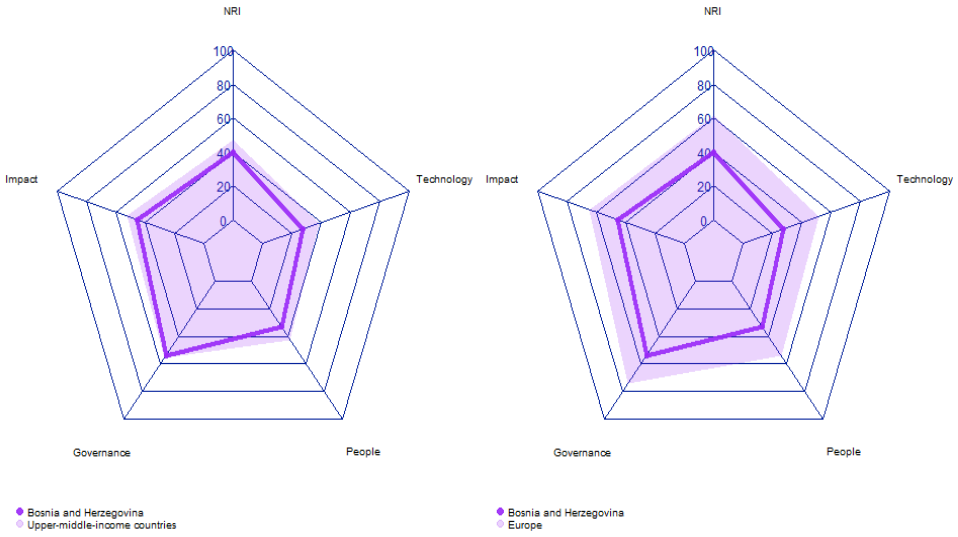


Table 2: Bosnia and Herzegovina scores vs. averages of its income group and region, overall and by pillar

Dimension	Bosnia and Herzegovina	Upper-middle-income countries	Europe
NRI	40.06	47.35	61.25
Technology	27.61	38.48	51.90
People	33.20	42.59	54.16
Governance	53.85	55.90	74.33
Impact	45.59	52.43	64.61

Strongest and weakest indicators

The indicators where Bosnia and Herzegovina performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 2.3.3 Government promotion of investment in emerging technologies, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Highlight of Strengths and Opportunities for Bosnia and Herzegovina

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	53
3.3.5 Rural gap in use of digital payments	28	2.3.2 Publication and use of open data	91
2.1.5 Adult literacy rate	30	4.3.5 SDG 11: Sustainable Cities and Communities	121
3.2.2 ICT regulatory environment	34	2.3.3 Government promotion of investment in emerging technologies	124
2.2.1 Firms with website	38	1.3.2 Investment in emerging technologies	125
3.2.5 Privacy protection by law content	48		
4.2.4 Healthy life expectancy at birth	48		
2.2.3 Knowledge intensive employment	52		
3.1.1 Secure Internet servers	52		
4.1.6 ICT services exports	54		
3.1.4 Internet shopping	56		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Bosnia and Herzegovina

Network Readiness Index Rank: 92 (out of 134) Score: 40.06

Pillar/sub-pillar	Rank	Score
A. Technology pillar	104	27.61
1st sub-pillar: Access	95	53.64
2nd sub-pillar: Content	102	15.13
3rd sub-pillar: Future Technologies	128	14.08
B. People pillar	97	33.20
1st sub-pillar: Individuals	91	41.03
2nd sub-pillar: Businesses	71	43.51
3rd sub-pillar: Governments	123	15.06

Pillar/sub-pillar	Rank	Score
C. Governance pillar	73	53.85
1st sub-pillar: Trust	84	34.48
2nd sub-pillar: Regulation	69	64.87
3rd sub-pillar: Inclusion	64	62.22
D. Impact pillar	95	45.59
1st sub-pillar: Economy	100	18.47
2nd sub-pillar: Quality of Life	68	68.01
3rd sub-pillar: SDG Contribution	112	50.28

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	104	27.61	
1st sub-pillar: Access	95	53.64	
1.1.1 Mobile tariffs	85	51.47	
1.1.2 Handset prices	85	39.21	
1.1.3 FTTH/building Internet subscriptions	96	14.89	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	109	62.95	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	102	15.13	
1.2.1 GitHub commits	63	7.57	
1.2.2 Internet domain registrations	71	3.43	
1.2.3 Mobile apps development	104	47.10	
1.2.4 AI scientific publications	82	2.40	
3rd sub-pillar: Future Technologies	128	14.08	
1.3.1 Adoption of emerging technologies	96	33.05	
1.3.2 Investment in emerging technologies	125	17.00	○

Indicator	Rank	Score	
C. Governance pillar	73	53.85	
1st sub-pillar: Trust	84	34.48	
3.1.1 Secure Internet servers	52	64.22	●
3.1.2 Cybersecurity	109	28.20	
3.1.3 Online access to financial account	104	10.71	
3.1.4 Internet shopping	56	34.79	●
2nd sub-pillar: Regulation	69	64.87	
3.2.1 Regulatory quality	79	45.57	
3.2.2 ICT regulatory environment	34	89.41	●
3.2.3 Regulation of emerging technologies	107	17.14	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	48	72.23	●
3rd sub-pillar: Inclusion	64	62.22	
3.3.1 E-Participation	71	52.33	
3.3.2 Socioeconomic gap in use of digital payments	80	65.63	
3.3.3 Availability of local online content	75	54.33	

Indicator	Rank	Score	
1.3.3 Robot density	53	0.32	○
1.3.4 Computer software spending	97	5.95	
B. People pillar	97	33.20	
1st sub-pillar: Individuals	91	41.03	
2.1.1 Mobile broadband internet traffic within the country	105	1.52	
2.1.2 ICT skills in the education system	88	29.58	
2.1.3 Use of virtual social networks	85	52.00	
2.1.4 Tertiary enrollment	77	24.64	
2.1.5 Adult literacy rate	30	97.41	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	71	43.51	
2.2.1 Firms with website	38	67.70	●
2.2.2 GERD financed by business enterprise	58	36.37	
2.2.3 Knowledge intensive employment	52	36.62	●
2.2.4 Annual investment in telecommunication services	90	74.82	
2.2.5 GERD performed by business enterprise	63	2.03	
3rd sub-pillar: Governments	123	15.06	
2.3.1 Government online services	100	43.61	
2.3.2 Publication and use of open data	91	8.82	○
2.3.3 Government promotion of investment in emerging tech	124	4.51	○
2.3.4 R&D expenditure by governments and higher education	90	3.29	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	76	63.78	
3.3.5 Rural gap in use of digital payments	28	75.01	●
D. Impact pillar	95	45.59	
1st sub-pillar: Economy	100	18.47	
4.1.1 High-tech and medium-high-tech manufacturing	72	19.23	
4.1.2 High-tech exports	74	9.40	
4.1.3 PCT patent applications	66	2.61	
4.1.4 Domestic market size	101	39.44	
4.1.5 Prevalence of gig economy	109	21.80	
4.1.6 ICT services exports	54	18.33	●
2nd sub-pillar: Quality of Life	68	68.01	
4.2.1 Happiness	71	63.17	
4.2.2 Freedom to make life choices	89	63.98	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	48	76.87	●
3rd sub-pillar: SDG Contribution	112	50.28	
4.3.1 SDG 3: Good Health and Well-Being	89	59.55	
4.3.2 SDG 4: Quality Education	60	27.97	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	112	52.89	
4.3.5 SDG 11: Sustainable Cities and Communities	121	32.25	○

NOTE: ● a strength and ○ a weakness.

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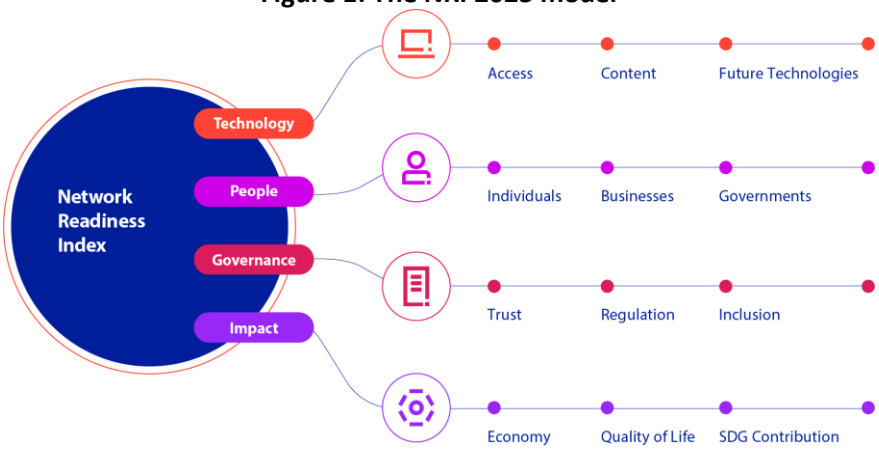
Botswana

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

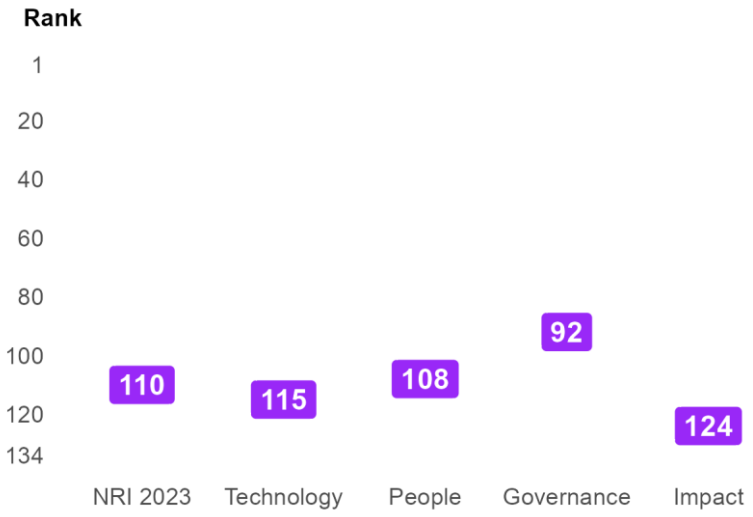
Figure 1: The NRI 2023 model



Global NRI position of Botswana

Botswana ranks 110th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Botswana global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Botswana relate to Regulation, Trust and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Economy and Quality of Life sub-pillars.

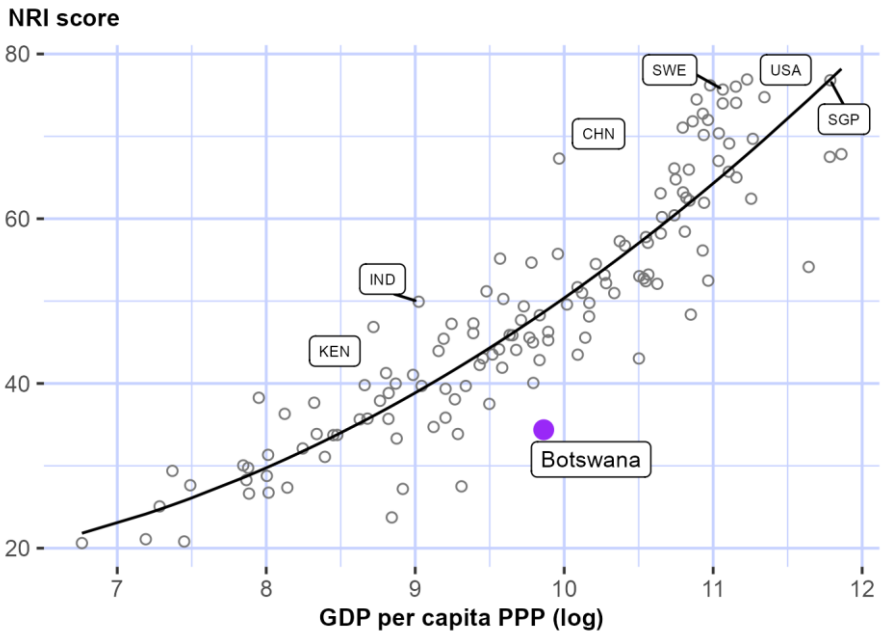
Table 1: Botswana rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	59	Future Technologies	102
Trust	81	Inclusion	114
SDG Contribution	90	Governments	119
Individuals	93	Content	121
Access	96	Economy	123
Businesses	99	Quality of Life	129

NRI score and income

Figure 3 shows the position of Botswana in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Botswana is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Botswana belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Upper-middle-income countries

Botswana is ranked 33rd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: Regulation.

Africa

Botswana is ranked 11th within Africa (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Governance. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Access, Individuals, Businesses, Trust, Regulation, Inclusion and SDG Contribution.

Figure 4: Performance of Botswana against its income group and region, overall and by pillar

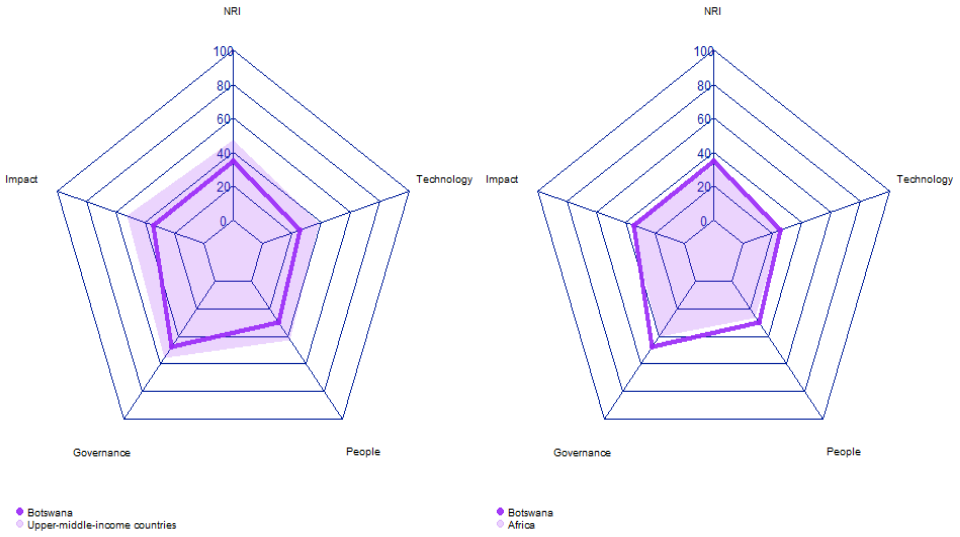


Table 2: Botswana scores vs. averages of its income group and region, overall and by pillar

Dimension	Botswana	Upper-middle-income countries	Africa
NRI	34.38	47.35	32.14
Technology	25.75	38.48	25.14
People	29.88	42.59	26.19
Governance	47.48	55.90	40.44
Impact	34.39	52.43	36.77

Strongest and weakest indicators

The indicators where Botswana performs particularly well include 3.2.4 E-commerce legislation, 2.1.2 ICT skills in the education system, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 2.3.1 Government online services, 3.3.1 E-Participation, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Botswana

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
2.1.2 ICT skills in the education system	30	1.2.3 Mobile apps development	120
4.3.4 SDG 7: Affordable and Clean Energy	34	1.1.3 FTTH/building Internet subscriptions	122
3.2.5 Privacy protection by law content	38	2.3.1 Government online services	128
3.2.1 Regulatory quality	43	3.3.1 E-Participation	128
3.1.3 Online access to financial account	50		
4.1.1 High-tech and medium-high-tech manufacturing	57		
2.2.3 Knowledge intensive employment	58		
2.3.4 R&D expenditure by governments and higher education	58		
3.3.5 Rural gap in use of digital payments	69		
1.1.5 International Internet bandwidth	72		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Botswana

Network Readiness Index — Rank: 110 (out of 134) — Score: 34.38

Pillar/sub-pillar	Rank	Score
A. Technology pillar	115	25.75
1st sub-pillar: Access	96	52.38
2nd sub-pillar: Content	121	2.35
3rd sub-pillar: Future Technologies	102	22.52
B. People pillar	108	29.88
1st sub-pillar: Individuals	93	40.81
2nd sub-pillar: Businesses	99	32.55
3rd sub-pillar: Governments	119	16.29

Pillar/sub-pillar	Rank	Score
C. Governance pillar	92	47.48
1st sub-pillar: Trust	81	35.45
2nd sub-pillar: Regulation	59	67.08
3rd sub-pillar: Inclusion	114	39.92
D. Impact pillar	124	34.39
1st sub-pillar: Economy	123	12.79
2nd sub-pillar: Quality of Life	129	34.39
3rd sub-pillar: SDG Contribution	90	56.00

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	115	25.75	
1st sub-pillar: Access	96	52.38	
1.1.1 Mobile tariffs	94	45.84	
1.1.2 Handset prices	76	42.82	
1.1.3 FTTH/building Internet subscriptions	122	3.43	○
1.1.4 Population covered by at least a 3G mobile network	76	99.34	
1.1.5 International Internet bandwidth	72	70.49	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	121	2.35	
1.2.1 GitHub commits	107	1.51	
1.2.2 Internet domain registrations	86	1.60	
1.2.3 Mobile apps development	120	5.60	○
1.2.4 AI scientific publications	109	0.69	
3rd sub-pillar: Future Technologies	102	22.52	
1.3.1 Adoption of emerging technologies	109	26.73	
1.3.2 Investment in emerging technologies	97	30.75	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	92	47.48	
1st sub-pillar: Trust	81	35.45	
3.1.1 Secure Internet servers	87	43.84	
3.1.2 Cybersecurity	93	52.23	
3.1.3 Online access to financial account	50	36.21	●
3.1.4 Internet shopping	92	9.51	
2nd sub-pillar: Regulation	59	67.08	
3.2.1 Regulatory quality	43	63.48	●
3.2.2 ICT regulatory environment	86	74.12	
3.2.3 Regulation of emerging technologies	102	22.34	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	38	75.47	●
3rd sub-pillar: Inclusion	114	39.92	
3.3.1 E-Participation	128	15.12	○
3.3.2 Socioeconomic gap in use of digital payments	96	54.46	
3.3.3 Availability of local online content	123	23.56	
3.3.4 Gender gap in Internet use	96	44.00	

Indicator	Rank	Score	
1.3.4 Computer software spending	90	10.09	
B. People pillar	108	29.88	
1st sub-pillar: Individuals	93	40.81	
2.1.1 Mobile broadband internet traffic within the country	111	1.08	
2.1.2 ICT skills in the education system	30	68.39	●
2.1.3 Use of virtual social networks	97	37.73	
2.1.4 Tertiary enrollment	93	14.85	
2.1.5 Adult literacy rate	72	82.01	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	99	32.55	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	70	21.87	
2.2.3 Knowledge intensive employment	58	33.54	●
2.2.4 Annual investment in telecommunication services	102	72.36	
2.2.5 GERD performed by business enterprise	62	2.41	
3rd sub-pillar: Governments	119	16.29	
2.3.1 Government online services	128	19.76	○
2.3.2 Publication and use of open data	97	5.88	
2.3.3 Government promotion of investment in emerging tech	91	29.60	
2.3.4 R&D expenditure by governments and higher education	58	9.93	●

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	69	62.45	●
D. Impact pillar	124	34.39	
1st sub-pillar: Economy	123	12.79	
4.1.1 High-tech and medium-high-tech manufacturing	57	26.46	●
4.1.2 High-tech exports	125	0.35	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	113	36.53	
4.1.5 Prevalence of gig economy	118	11.92	
4.1.6 ICT services exports	120	1.48	
2nd sub-pillar: Quality of Life	129	34.39	
4.2.1 Happiness	123	20.14	
4.2.2 Freedom to make life choices	95	60.72	
4.2.3 Income inequality	111	24.37	
4.2.4 Healthy life expectancy at birth	127	32.31	
3rd sub-pillar: SDG Contribution	90	56.00	
4.3.1 SDG 3: Good Health and Well-Being	107	41.65	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	119	48.67	
4.3.4 SDG 7: Affordable and Clean Energy	34	78.40	●
4.3.5 SDG 11: Sustainable Cities and Communities	82	55.29	

NOTE: ● a strength and ○ a weakness.

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Brazil

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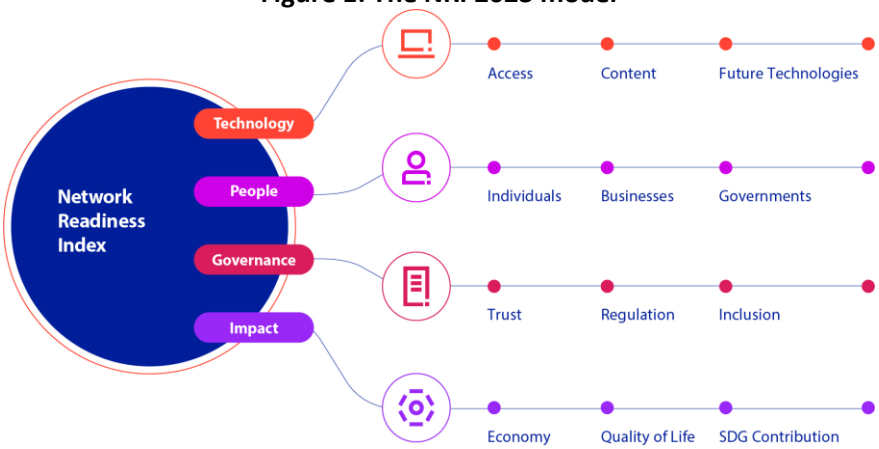
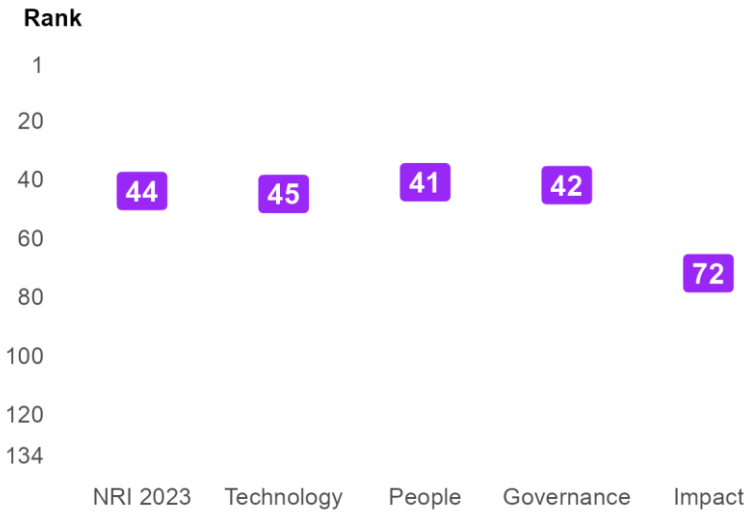
Figure 1: The NRI 2023 model



Global NRI position of Brazil

Brazil ranks 44th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Brazil global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Brazil relate to Inclusion, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Individuals and Quality of Life sub-pillars.

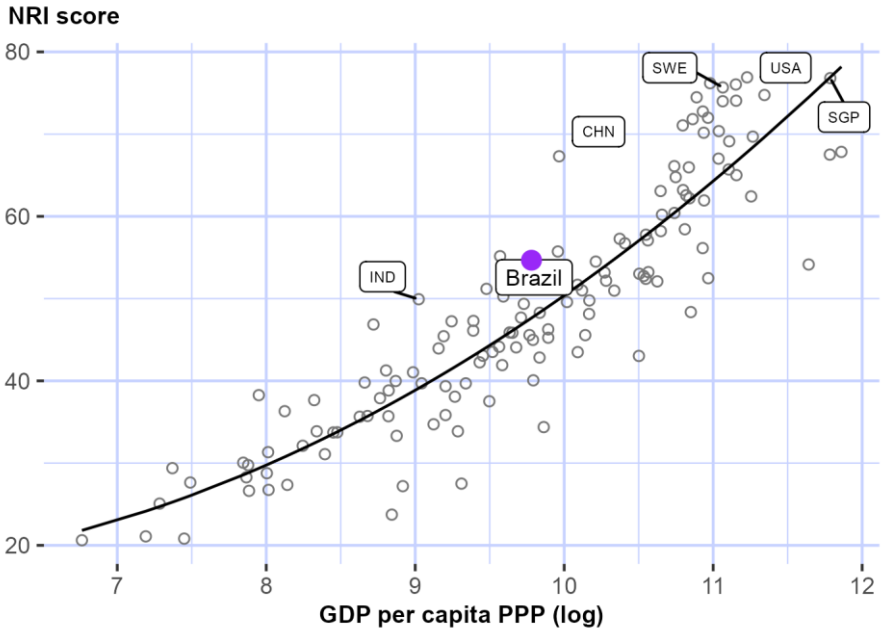
Table 1: Brazil rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	24	Trust	52
Access	28	SDG Contribution	59
Governments	34	Economy	61
Businesses	36	Future Technologies	72
Content	40	Individuals	85
Regulation	47	Quality of Life	91

NRI score and income

Figure 3 shows the position of Brazil in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Brazil is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Brazil belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Brazil is ranked 5th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

The Americas

Brazil is ranked 3rd within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Governance. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

Figure 4: Performance of Brazil against its income group and region, overall and by pillar

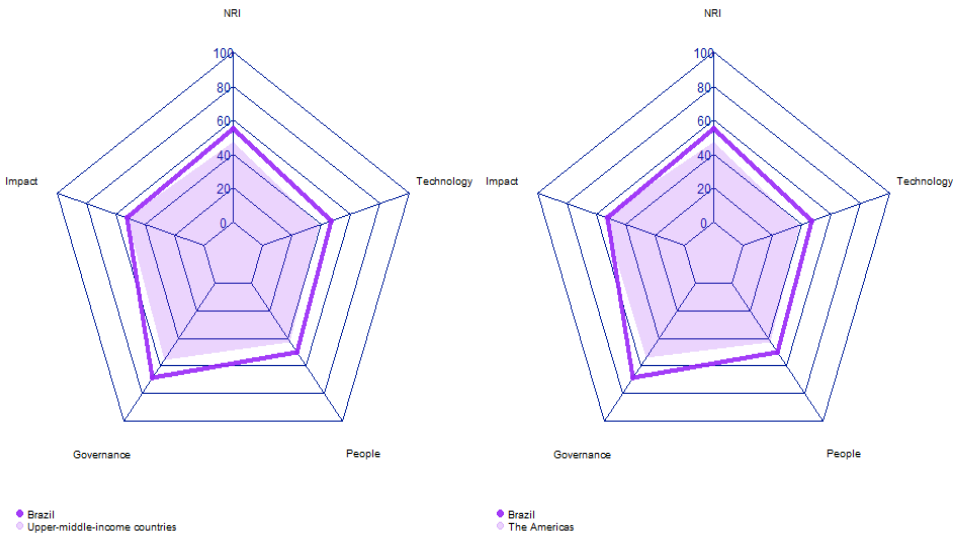


Table 2: Brazil scores vs. averages of its income group and region, overall and by pillar

Dimension	Brazil	Upper-middle-income countries	The Americas
NRI	54.67	47.35	47.41
Technology	47.01	38.48	38.24
People	50.31	42.59	42.35
Governance	68.72	55.90	54.12
Impact	52.64	52.43	54.93

Strongest and weakest indicators

The indicators where Brazil performs particularly well include 3.2.4 E-commerce legislation, 1.1.3 FTTH/building Internet subscriptions, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 2.1.2 ICT skills in the education system, and 4.3.2 SDG 4: Quality Education.

Table 3: Highlight of Strengths and Opportunities for Brazil

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	44
1.1.3 FTTH/building Internet subscriptions	3	2.1.6 AI talent concentration	46
1.2.4 AI scientific publications	8	4.3.2 SDG 4: Quality Education	65
4.1.4 Domestic market size	8	2.1.2 ICT skills in the education system	95
2.2.4 Annual investment in telecommunication services	9	4.2.3 Income inequality	110
3.3.1 E-Participation	11		
2.3.1 Government online services	14		
3.2.2 ICT regulatory environment	14		
3.3.4 Gender gap in Internet use	16		
2.1.1 Mobile broadband internet traffic within the country	17		
1.1.2 Handset prices	25		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Brazil

Network Readiness Index Rank: 44 (out of 134) Score: 54.67

Pillar/sub-pillar	Rank	Score
A. Technology pillar	45	47.01
1st sub-pillar: Access	28	75.17
2nd sub-pillar: Content	40	34.60
3rd sub-pillar: Future Technologies	72	31.25
B. People pillar	41	50.31
1st sub-pillar: Individuals	85	42.87
2nd sub-pillar: Businesses	36	58.16
3rd sub-pillar: Governments	34	49.90

Pillar/sub-pillar	Rank	Score
C. Governance pillar	42	68.72
1st sub-pillar: Trust	52	55.06
2nd sub-pillar: Regulation	47	72.20
3rd sub-pillar: Inclusion	24	78.91
D. Impact pillar	72	52.64
1st sub-pillar: Economy	61	30.62
2nd sub-pillar: Quality of Life	91	61.16
3rd sub-pillar: SDG Contribution	59	66.13

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	45	47.01	
1st sub-pillar: Access	28	75.17	
1.1.1 Mobile tariffs	57	66.93	
1.1.2 Handset prices	25	71.76	•
1.1.3 FTTH/building Internet subscriptions	3	72.61	•
1.1.4 Population covered by at least a 3G mobile network	101	97.36	
1.1.5 International Internet bandwidth	25	80.31	
1.1.6 Internet access in schools	50	62.04	
2nd sub-pillar: Content	40	34.60	
1.2.1 GitHub commits	47	16.95	
1.2.2 Internet domain registrations	53	6.16	
1.2.3 Mobile apps development	38	72.65	
1.2.4 AI scientific publications	8	42.62	•
3rd sub-pillar: Future Technologies	72	31.25	
1.3.1 Adoption of emerging technologies	46	55.65	
1.3.2 Investment in emerging technologies	67	39.00	

Indicator	Rank	Score	
C. Governance pillar	42	68.72	
1st sub-pillar: Trust	52	55.06	
3.1.1 Secure Internet servers	54	64.09	
3.1.2 Cybersecurity	25	96.54	
3.1.3 Online access to financial account	79	19.93	
3.1.4 Internet shopping	51	39.66	
2nd sub-pillar: Regulation	47	72.20	
3.2.1 Regulatory quality	77	47.10	
3.2.2 ICT regulatory environment	14	94.12	•
3.2.3 Regulation of emerging technologies	59	45.97	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	43	73.81	
3rd sub-pillar: Inclusion	24	78.91	
3.3.1 E-Participation	11	89.53	•
3.3.2 Socioeconomic gap in use of digital payments	41	88.16	
3.3.3 Availability of local online content	50	67.55	

Indicator	Rank	Score	
1.3.3 Robot density	44	2.17	○
1.3.4 Computer software spending	44	28.19	
B. People pillar	41	50.31	
1st sub-pillar: Individuals	85	42.87	
2.1.1 Mobile broadband internet traffic within the country	17	38.20	●
2.1.2 ICT skills in the education system	95	24.98	○
2.1.3 Use of virtual social networks	64	66.37	
2.1.4 Tertiary enrollment	62	35.00	
2.1.5 Adult literacy rate	56	92.22	
2.1.6 AI talent concentration	46	0.43	○
2nd sub-pillar: Businesses	36	58.16	
2.2.1 Firms with website	58	54.16	
2.2.2 GERD financed by business enterprise	38	53.48	
2.2.3 Knowledge intensive employment	57	34.40	
2.2.4 Annual investment in telecommunication services	9	90.60	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	34	49.90	
2.3.1 Government online services	14	88.55	●
2.3.2 Publication and use of open data	20	61.76	
2.3.3 Government promotion of investment in emerging tech	95	28.44	
2.3.4 R&D expenditure by governments and higher education	34	20.86	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	16	74.03	●
3.3.5 Rural gap in use of digital payments	25	75.26	
D. Impact pillar	72	52.64	
1st sub-pillar: Economy	61	30.62	
4.1.1 High-tech and medium-high-tech manufacturing	33	44.02	
4.1.2 High-tech exports	55	16.08	
4.1.3 PCT patent applications	51	5.68	
4.1.4 Domestic market size	8	79.89	●
4.1.5 Prevalence of gig economy	94	29.36	
4.1.6 ICT services exports	85	8.72	
2nd sub-pillar: Quality of Life	91	61.16	
4.2.1 Happiness	42	72.62	
4.2.2 Freedom to make life choices	62	75.76	
4.2.3 Income inequality	110	25.38	○
4.2.4 Healthy life expectancy at birth	73	70.87	
3rd sub-pillar: SDG Contribution	59	66.13	
4.3.1 SDG 3: Good Health and Well-Being	49	76.58	
4.3.2 SDG 4: Quality Education	65	26.91	○
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	69	71.60	
4.3.5 SDG 11: Sustainable Cities and Communities	46	76.80	

NOTE: ● a strength and ○ a weakness.

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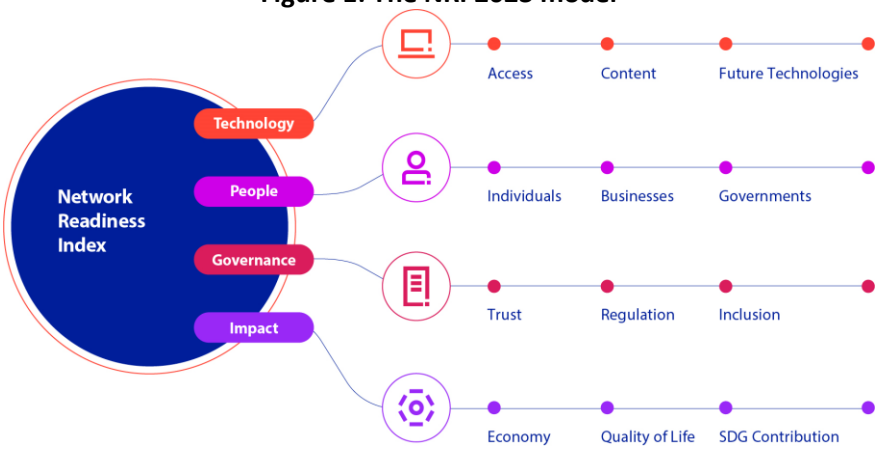
Bulgaria

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

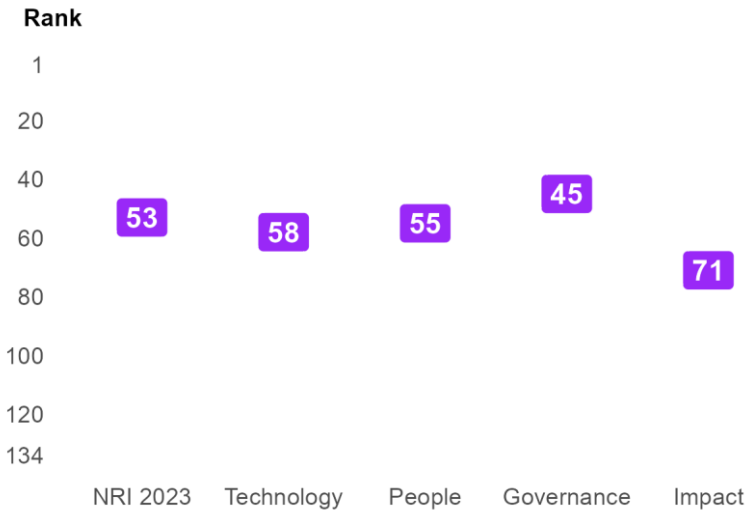
Figure 1: The NRI 2023 model



Global NRI position of Bulgaria

Bulgaria ranks 53rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Bulgaria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Bulgaria relate to Regulation, Economy and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Future Technologies and Quality of Life sub-pillars.

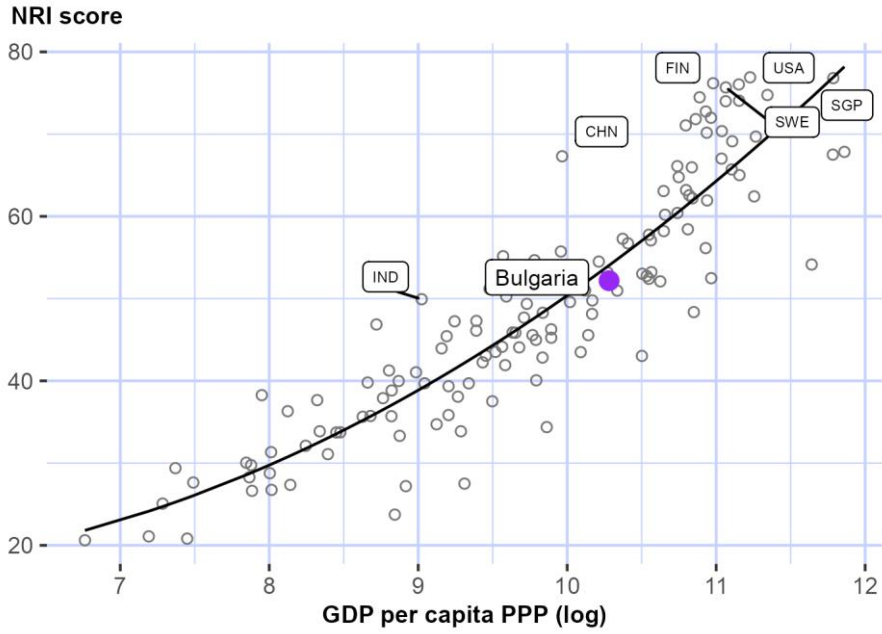
Table 1: Bulgaria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	31	Trust	55
Economy	40	Governments	56
Content	46	Businesses	61
Individuals	50	SDG Contribution	78
Access	51	Future Technologies	81
Inclusion	52	Quality of Life	88

NRI score and income

Figure 3 shows the position of Bulgaria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Bulgaria is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Bulgaria belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Bulgaria is ranked 7th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in nine of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

Europe

Bulgaria is ranked 34th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Bulgaria against its income group and region, overall and by pillar

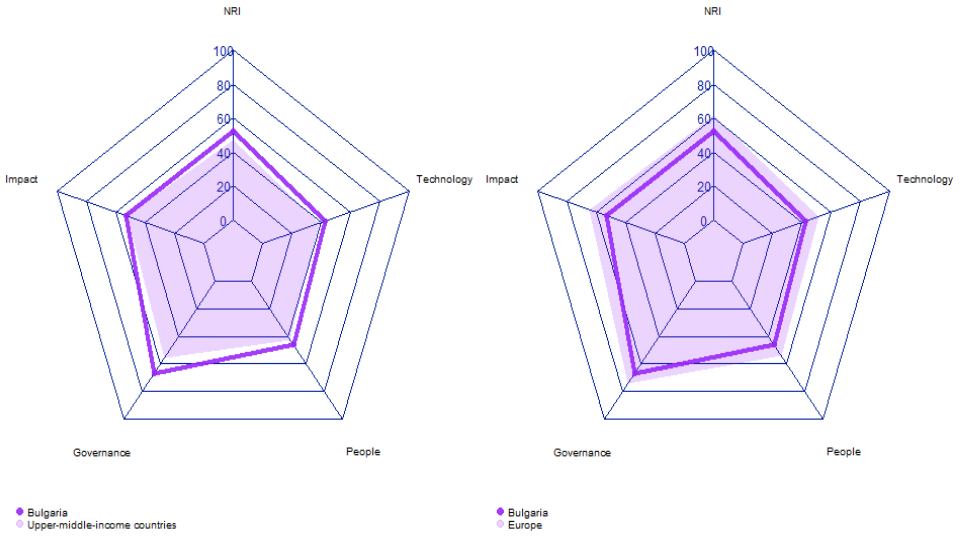


Table 2: Bulgaria scores vs. averages of its income group and region, overall and by pillar

Dimension	Bulgaria	Upper-middle-income countries	Europe
NRI	52.18	47.35	61.25
Technology	42.69	38.48	51.90
People	46.33	42.59	54.16
Governance	66.87	55.90	74.33
Impact	52.81	52.43	64.61

Strongest and weakest indicators

The indicators where Bulgaria performs particularly well include 3.2.4 E-commerce legislation, 2.1.6 AI talent concentration, and 3.1.1 Secure Internet servers (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 4.2.2 Freedom to make life choices, 3.1.3 Online access to financial account, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Highlight of Strengths and Opportunities for Bulgaria

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	43
2.1.6 AI talent concentration	9	3.1.3 Online access to financial account	93
3.1.1 Secure Internet servers	14	4.3.4 SDG 7: Affordable and Clean Energy	93
3.2.2 ICT regulatory environment	14	4.2.2 Freedom to make life choices	94
4.1.6 ICT services exports	18	4.3.5 SDG 11: Sustainable Cities and Communities	105
1.1.4 Population covered by at least a 3G mobile network	22		
4.1.5 Prevalence of gig economy	24		
2.1.4 Tertiary enrollment	26		
1.1.5 International Internet bandwidth	27		
3.2.5 Privacy protection by law content	29		
3.3.1 E-Participation	29		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Bulgaria

Network Readiness Index — Rank: 53 (out of 134) — Score: 52.18

Pillar/sub-pillar	Rank	Score
A. Technology pillar	58	42.69
1st sub-pillar: Access	51	69.38
2nd sub-pillar: Content	46	29.60
3rd sub-pillar: Future Technologies	81	29.10
B. People pillar	55	46.33
1st sub-pillar: Individuals	50	51.09
2nd sub-pillar: Businesses	61	46.54
3rd sub-pillar: Governments	56	41.36

Pillar/sub-pillar	Rank	Score
C. Governance pillar	45	66.87
1st sub-pillar: Trust	55	53.39
2nd sub-pillar: Regulation	31	78.91
3rd sub-pillar: Inclusion	52	68.30
D. Impact pillar	71	52.81
1st sub-pillar: Economy	40	36.22
2nd sub-pillar: Quality of Life	88	61.92
3rd sub-pillar: SDG Contribution	78	60.30

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	58	42.69	
1st sub-pillar: Access	51	69.38	
1.1.1 Mobile tariffs	45	72.16	
1.1.2 Handset prices	52	56.21	
1.1.3 FTTH/building Internet subscriptions	38	38.86	
1.1.4 Population covered by at least a 3G mobile network	22	100.00	●
1.1.5 International Internet bandwidth	27	79.65	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	46	29.60	
1.2.1 GitHub commits	37	26.38	
1.2.2 Internet domain registrations	40	15.27	
1.2.3 Mobile apps development	48	71.28	
1.2.4 AI scientific publications	68	5.48	
3rd sub-pillar: Future Technologies	81	29.10	
1.3.1 Adoption of emerging technologies	60	48.94	
1.3.2 Investment in emerging technologies	50	46.50	

Indicator	Rank	Score	
C. Governance pillar	45	66.87	
1st sub-pillar: Trust	55	53.39	
3.1.1 Secure Internet servers	14	86.02	●
3.1.2 Cybersecurity	84	66.81	
3.1.3 Online access to financial account	93	16.23	○
3.1.4 Internet shopping	47	44.48	
2nd sub-pillar: Regulation	31	78.91	
3.2.1 Regulatory quality	48	59.73	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	41	59.48	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	29	81.25	●
3rd sub-pillar: Inclusion	52	68.30	
3.3.1 E-Participation	29	73.25	●
3.3.2 Socioeconomic gap in use of digital payments	77	67.26	
3.3.3 Availability of local online content	36	78.12	

Indicator	Rank	Score	
1.3.3 Robot density	43	2.35	○
1.3.4 Computer software spending	74	18.61	
B. People pillar	55	46.33	
1st sub-pillar: Individuals	50	51.09	
2.1.1 Mobile broadband internet traffic within the country	59	10.65	
2.1.2 ICT skills in the education system	60	51.60	
2.1.3 Use of virtual social networks	70	61.58	
2.1.4 Tertiary enrollment	26	49.06	●
2.1.5 Adult literacy rate	27	97.84	
2.1.6 AI talent concentration	9	35.84	●
2nd sub-pillar: Businesses	61	46.54	
2.2.1 Firms with website	61	49.01	
2.2.2 GERD financed by business enterprise	52	43.79	
2.2.3 Knowledge intensive employment	43	48.67	
2.2.4 Annual investment in telecommunication services	62	78.19	
2.2.5 GERD performed by business enterprise	39	13.05	
3rd sub-pillar: Governments	56	41.36	
2.3.1 Government online services	64	67.86	
2.3.2 Publication and use of open data	41	38.24	
2.3.3 Government promotion of investment in emerging tech	50	45.63	
2.3.4 R&D expenditure by governments and higher education	47	13.70	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	64	67.43	
3.3.5 Rural gap in use of digital payments	79	55.45	
D. Impact pillar	71	52.81	
1st sub-pillar: Economy	40	36.22	
4.1.1 High-tech and medium-high-tech manufacturing	48	30.52	
4.1.2 High-tech exports	44	20.24	
4.1.3 PCT patent applications	47	7.20	
4.1.4 Domestic market size	69	51.12	
4.1.5 Prevalence of gig economy	24	63.95	●
4.1.6 ICT services exports	18	44.28	●
2nd sub-pillar: Quality of Life	88	61.92	
4.2.1 Happiness	82	56.28	
4.2.2 Freedom to make life choices	94	61.05	○
4.2.3 Income inequality	79	56.53	
4.2.4 Healthy life expectancy at birth	60	73.83	
3rd sub-pillar: SDG Contribution	78	60.30	
4.3.1 SDG 3: Good Health and Well-Being	69	68.14	
4.3.2 SDG 4: Quality Education	49	37.78	
4.3.3 SDG 5: Women's economic opportunity	39	86.73	
4.3.4 SDG 7: Affordable and Clean Energy	93	64.09	○
4.3.5 SDG 11: Sustainable Cities and Communities	105	44.76	○

NOTE: ● a strength and ○ a weakness.

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Burkina Faso

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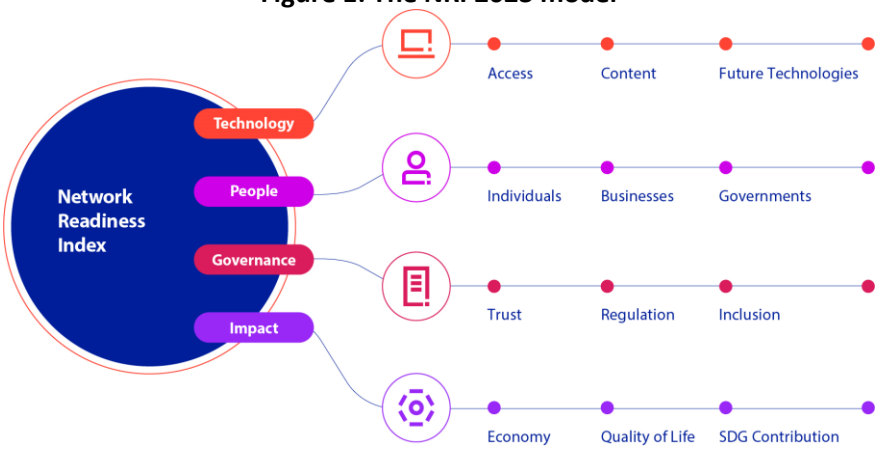
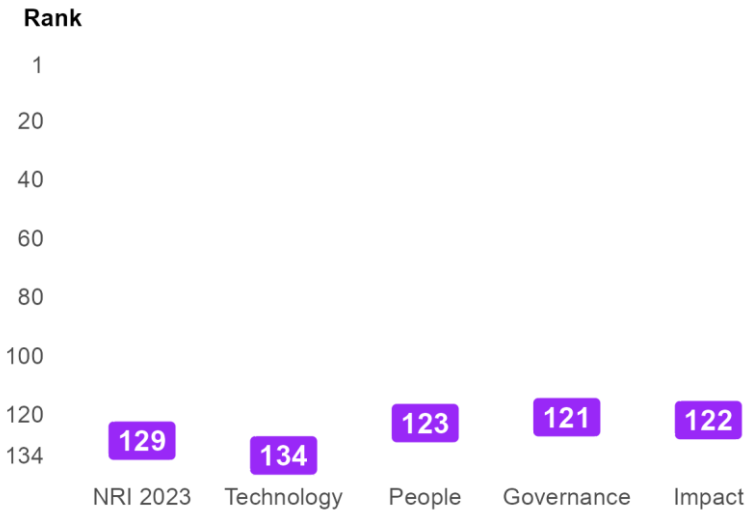
Figure 1: The NRI 2023 model



Global NRI position of Burkina Faso

Burkina Faso ranks 129th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Burkina Faso global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Burkina Faso relate to Businesses, Regulation and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Access and Individuals sub-pillars.

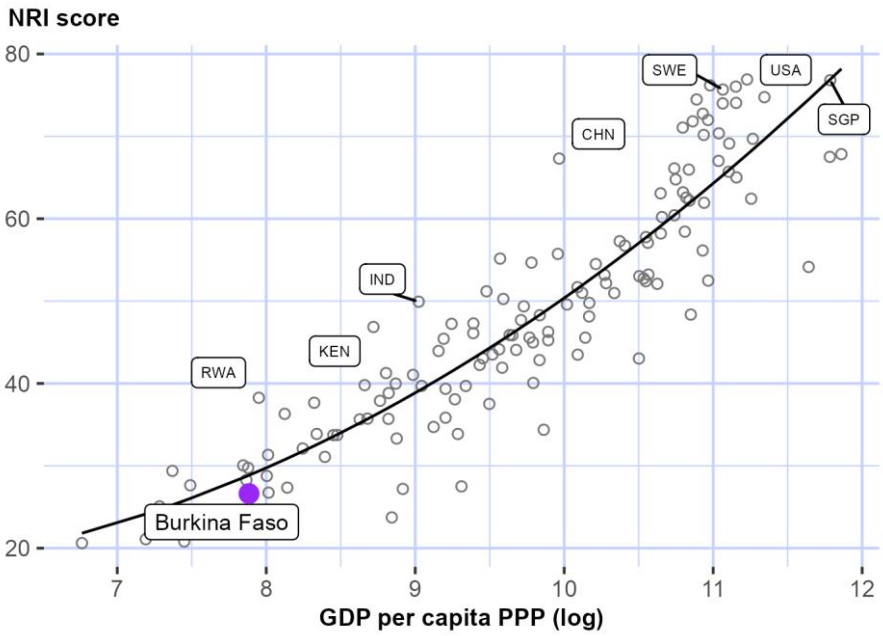
Table 1: Burkina Faso rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	65	Quality of Life	123
Regulation	77	Content	129
SDG Contribution	111	Future Technologies	131
Trust	115	Inclusion	132
Governments	116	Access	133
Economy	121	Individuals	133

NRI score and income

Figure 3 shows the position of Burkina Faso in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Burkina Faso is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Burkina Faso belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Burkina Faso is ranked 8th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: People and Governance. At the sub-pillar level, it outperforms low-income countries in five of the twelve sub-pillars: Businesses, Governments, Trust, Regulation and SDG Contribution.

Africa

Burkina Faso is ranked 27th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Businesses, Regulation and SDG Contribution.

Figure 4: Performance of Burkina Faso against its income group and region, overall and by pillar

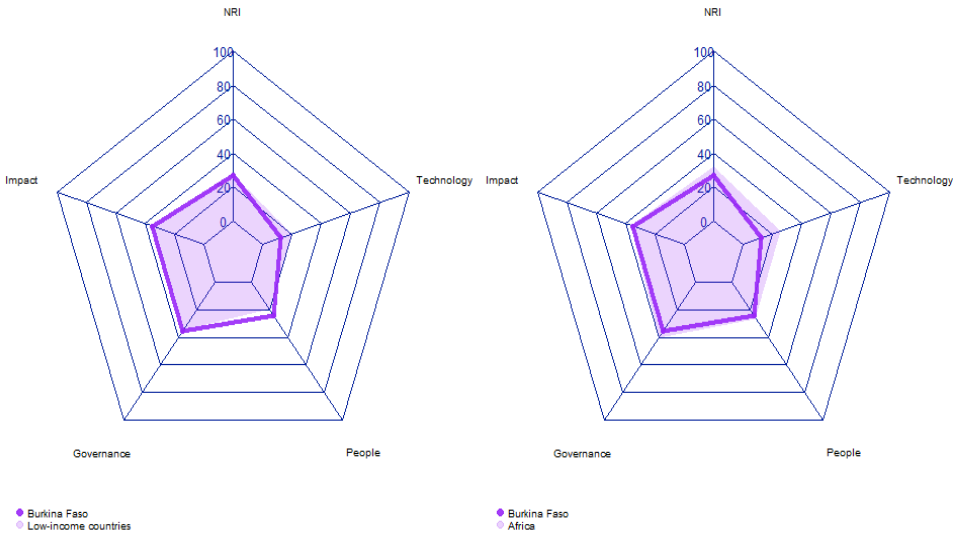


Table 2: Burkina Faso scores vs. averages of its income group and region, overall and by pillar

Dimension	Burkina Faso	Low-income countries	Africa
NRI	26.63	27.19	32.14
Technology	12.14	19.75	25.14
People	24.29	19.57	26.19
Governance	35.29	34.61	40.44
Impact	34.79	34.82	36.77

Strongest and weakest indicators

The indicators where Burkina Faso performs particularly well include 3.2.2 ICT regulatory environment, 3.1.3 Online access to financial account, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 1.2.1 GitHub commits, 3.3.3 Availability of local online content, 1.2.2 Internet domain registrations, and 3.1.1 Secure Internet servers.

Table 3: Highlight of Strengths and Opportunities for Burkina Faso

Strongest indicators	Rank	Weakest indicators	Rank
3.2.2 ICT regulatory environment	58	4.1.3 PCT patent applications	99
3.1.3 Online access to financial account	68	3.3.4 Gender gap in Internet use	105
4.3.3 SDG 5: Women's economic opportunity	71	1.1.3 FTTH/building Internet subscriptions	124
2.3.2 Publication and use of open data	72	1.3.1 Adoption of emerging technologies	126
3.2.5 Privacy protection by law content	81	1.1.2 Handset prices	128
4.1.6 ICT services exports	86	1.1.4 Population covered by at least a 3G mobile network	130
4.3.4 SDG 7: Affordable and Clean Energy	86	1.2.2 Internet domain registrations	131
1.2.4 AI scientific publications	91	3.1.1 Secure Internet servers	131
4.1.2 High-tech exports	93	1.2.1 GitHub commits	132
3.2.1 Regulatory quality	95	3.3.3 Availability of local online content	132

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Burkina Faso

Network Readiness Index Rank: 129 (out of 134) Score: 26.63

Pillar/sub-pillar	Rank	Score
A. Technology pillar	134	12.14
1st sub-pillar: Access	133	26.26
2nd sub-pillar: Content	129	0.63
3rd sub-pillar: Future Technologies	131	9.52
B. People pillar	123	24.29
1st sub-pillar: Individuals	133	9.32
2nd sub-pillar: Businesses	65	45.03
3rd sub-pillar: Governments	116	18.50

Pillar/sub-pillar	Rank	Score
C. Governance pillar	121	35.29
1st sub-pillar: Trust	115	21.17
2nd sub-pillar: Regulation	77	62.61
3rd sub-pillar: Inclusion	132	22.10
D. Impact pillar	122	34.79
1st sub-pillar: Economy	121	13.46
2nd sub-pillar: Quality of Life	123	40.59
3rd sub-pillar: SDG Contribution	111	50.34

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	134	12.14	
1st sub-pillar: Access	133	26.26	
1.1.1 Mobile tariffs	127	10.18	
1.1.2 Handset prices	128	14.65	○
1.1.3 FTTH/building Internet subscriptions	124	0.88	○
1.1.4 Population covered by at least a 3G mobile network	130	73.79	○
1.1.5 International Internet bandwidth	121	57.82	
1.1.6 Internet access in schools	82	0.23	
2nd sub-pillar: Content	129	0.63	
1.2.1 GitHub commits	132	0.09	○
1.2.2 Internet domain registrations	131	0.05	○
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	91	1.76	•
3rd sub-pillar: Future Technologies	131	9.52	
1.3.1 Adoption of emerging technologies	126	2.44	○
1.3.2 Investment in emerging technologies	111	24.00	

Indicator	Rank	Score	
C. Governance pillar	121	35.29	
1st sub-pillar: Trust	115	21.17	
3.1.1 Secure Internet servers	131	13.67	○
3.1.2 Cybersecurity	100	38.92	
3.1.3 Online access to financial account	68	27.27	•
3.1.4 Internet shopping	110	4.82	
2nd sub-pillar: Regulation	77	62.61	
3.2.1 Regulatory quality	95	39.05	•
3.2.2 ICT regulatory environment	58	84.71	•
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	81	60.00	•
3rd sub-pillar: Inclusion	132	22.10	
3.3.1 E-Participation	122	20.94	
3.3.2 Socioeconomic gap in use of digital payments	109	46.40	
3.3.3 Availability of local online content	132	8.41	○

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	114	2.13	
B. People pillar		123	24.29	
1st sub-pillar: Individuals		133	9.32	
2.1.1	Mobile broadband internet traffic within the country	118	0.31	
2.1.2	ICT skills in the education system	NA	NA	
2.1.3	Use of virtual social networks	124	6.06	
2.1.4	Tertiary enrollment	115	4.60	
2.1.5	Adult literacy rate	102	26.32	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		65	45.03	
2.2.1	Firms with website	NA	NA	
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	94	17.14	
2.2.4	Annual investment in telecommunication services	99	72.92	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		116	18.50	
2.3.1	Government online services	117	30.70	
2.3.2	Publication and use of open data	72	20.59	●
2.3.3	Government promotion of investment in emerging tech	106	18.40	
2.3.4	R&D expenditure by governments and higher education	85	4.32	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	105	0.00	○
3.3.5	Rural gap in use of digital payments	107	34.76	
D. Impact pillar		122	34.79	
1st sub-pillar: Economy		121	13.46	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	93	3.85	●
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	103	38.86	
4.1.5	Prevalence of gig economy	114	15.99	
4.1.6	ICT services exports	86	8.59	●
2nd sub-pillar: Quality of Life		123	40.59	
4.2.1	Happiness	99	42.46	
4.2.2	Freedom to make life choices	119	44.86	
4.2.3	Income inequality	102	39.45	
4.2.4	Healthy life expectancy at birth	119	35.57	
3rd sub-pillar: SDG Contribution		111	50.34	
4.3.1	SDG 3: Good Health and Well-Being	124	24.54	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	71	75.22	●
4.3.4	SDG 7: Affordable and Clean Energy	86	66.98	●
4.3.5	SDG 11: Sustainable Cities and Communities	119	34.61	

NOTE: ● a strength and ○ a weakness.

Sources

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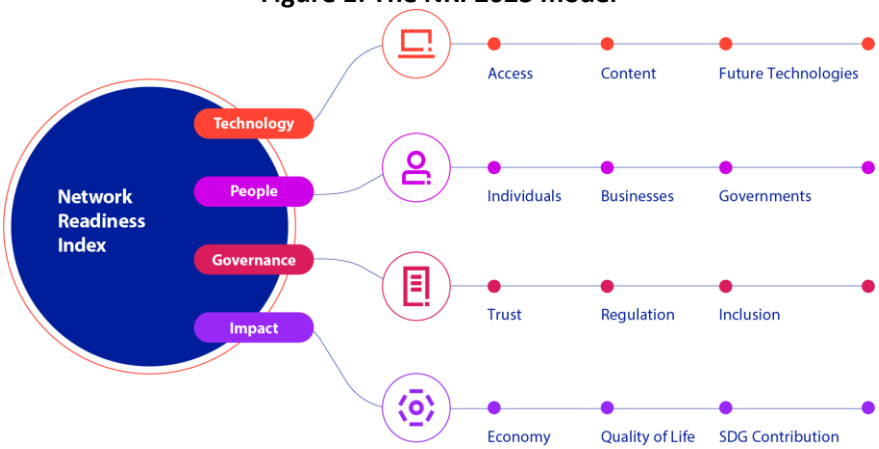
Burundi

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

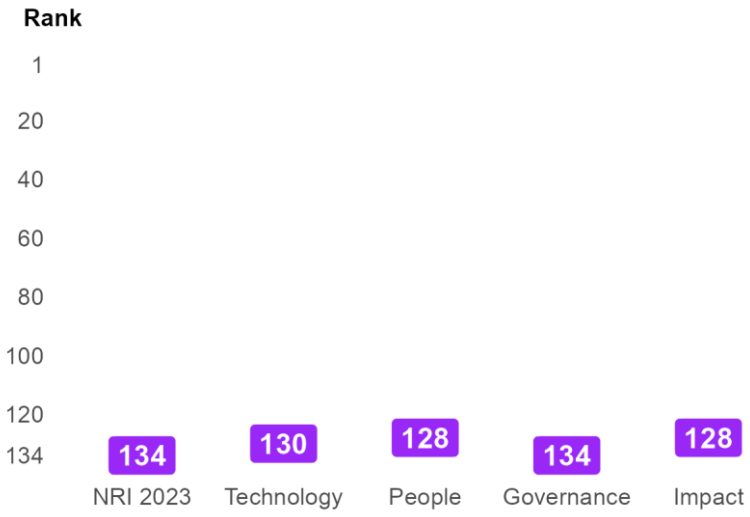
Figure 1: The NRI 2023 model



Global NRI position of Burundi

Burundi ranks 134th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People and Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Burundi global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Burundi relate to Content, Governments and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Regulation and Inclusion sub-pillars.

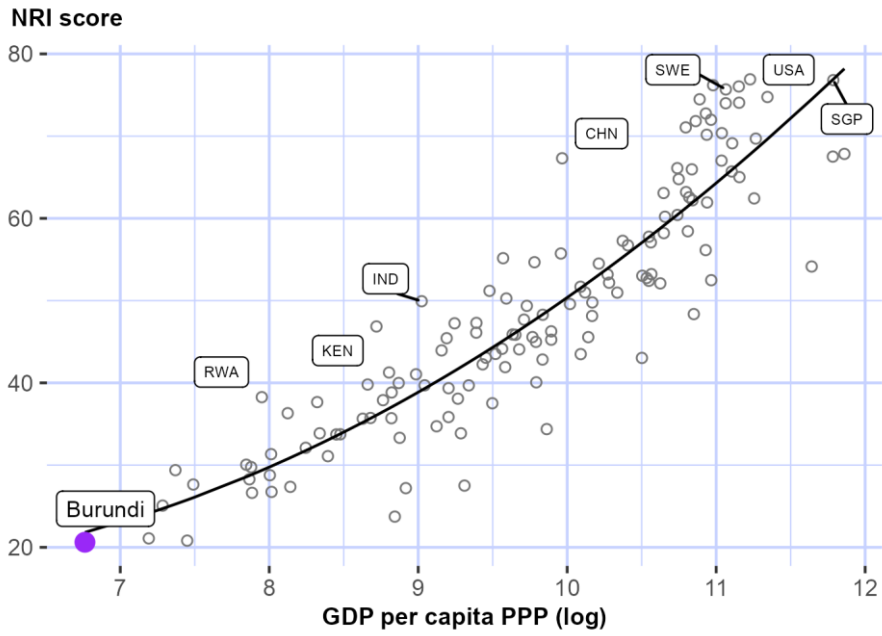
Table 1: Burundi rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	105	Businesses	129
Governments	117	SDG Contribution	129
Quality of Life	121	Access	134
Future Technologies	126	Trust	134
Individuals	126	Regulation	134
Economy	127	Inclusion	134

NRI score and income

Figure 3 shows the position of Burundi in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Burundi is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Burundi belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Burundi is ranked 12th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in two of the twelve sub-pillars: Content and Individuals.

Africa

Burundi is ranked 31st within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in one of the twelve sub-pillars: Content.

Figure 4: Performance of Burundi against its income group and region, overall and by pillar

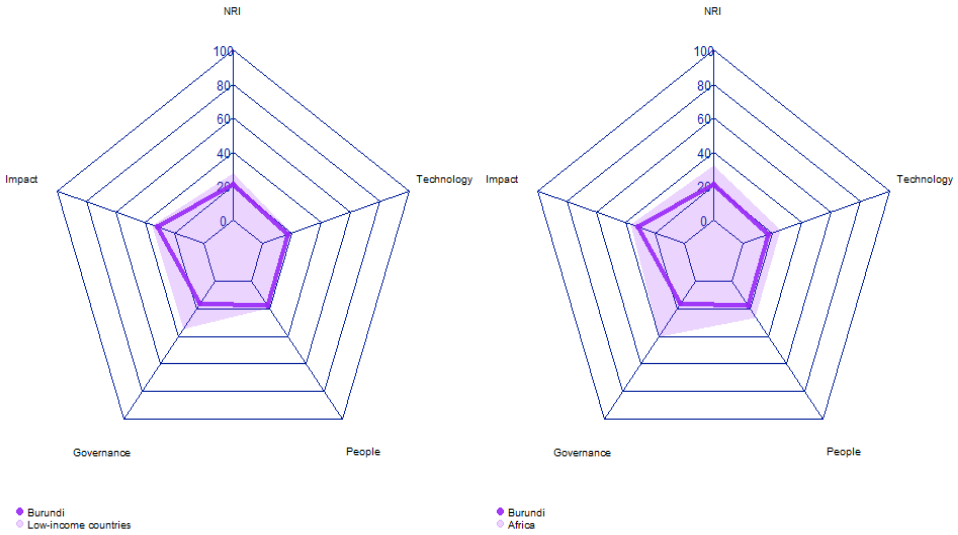


Table 2: Burundi scores vs. averages of its income group and region, overall and by pillar

Dimension	Burundi	Low-income countries	Africa
NRI	20.62	27.19	32.14
Technology	16.84	19.75	25.14
People	17.72	19.57	26.19
Governance	16.27	34.61	40.44
Impact	31.66	34.82	36.77

Strongest and weakest indicators

The indicators where Burundi performs particularly well include 1.2.4 AI scientific publications, 4.2.3 Income inequality, and 2.2.2 GERD financed by business enterprise (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 1.1.1 Mobile tariffs, 1.1.2 Handset prices, and 3.2.5 Privacy protection by law content.

Table 3: Highlight of Strengths and Opportunities for Burundi

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	45	3.3.4 Gender gap in Internet use	105
4.2.3 Income inequality	71	1.2.2 Internet domain registrations	128
2.2.2 GERD financed by business enterprise	76	2.2.3 Knowledge intensive employment	128
3.2.3 Regulation of emerging technologies	82	1.2.1 GitHub commits	129
2.3.4 R&D expenditure by governments and higher education	87	2.1.3 Use of virtual social networks	129
4.1.5 Prevalence of gig economy	91	3.1.1 Secure Internet servers	129
3.3.1 E-Participation	98	3.2.4 E-commerce legislation	129
4.3.3 SDG 5: Women's economic opportunity	98	4.1.2 High-tech exports	130
1.3.4 Computer software spending	99	1.1.4 Population covered by at least a 3G mobile network	131
4.1.6 ICT services exports	99	1.1.5 International Internet bandwidth	131
		3.3.2 Socioeconomic gap in use of digital payments	131
		4.1.4 Domestic market size	131
		1.1.1 Mobile tariffs	132
		1.1.2 Handset prices	132
		3.2.5 Privacy protection by law content	132
		3.1.2 Cybersecurity	133

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Burundi

Network Readiness Index Rank: 134 (out of 134) Score: 20.62

Pillar/sub-pillar	Rank	Score
A. Technology pillar	130	16.84
1st sub-pillar: Access	134	20.85
2nd sub-pillar: Content	105	14.22
3rd sub-pillar: Future Technologies	126	15.43
B. People pillar	128	17.72
1st sub-pillar: Individuals	126	17.60
2nd sub-pillar: Businesses	129	18.35
3rd sub-pillar: Governments	117	17.21

Pillar/sub-pillar	Rank	Score
C. Governance pillar	134	16.27
1st sub-pillar: Trust	134	8.38
2nd sub-pillar: Regulation	134	25.74
3rd sub-pillar: Inclusion	134	14.69
D. Impact pillar	128	31.66
1st sub-pillar: Economy	127	11.40
2nd sub-pillar: Quality of Life	121	42.75
3rd sub-pillar: SDG Contribution	129	40.82

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	130	16.84	
1st sub-pillar: Access	134	20.85	
1.1.1 Mobile tariffs	132	5.29	○
1.1.2 Handset prices	132	0.00	○
1.1.3 FTTH/building Internet subscriptions	123	2.29	
1.1.4 Population covered by at least a 3G mobile network	131	70.76	○
1.1.5 International Internet bandwidth	131	46.78	○
1.1.6 Internet access in schools	84	0.00	
2nd sub-pillar: Content	105	14.22	
1.2.1 GitHub commits	129	0.21	○
1.2.2 Internet domain registrations	128	0.09	○
1.2.3 Mobile apps development	108	46.13	
1.2.4 AI scientific publications	45	10.46	
3rd sub-pillar: Future Technologies	126	15.43	
1.3.1 Adoption of emerging technologies	118	17.31	
1.3.2 Investment in emerging technologies	112	23.50	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	134	16.27	
1st sub-pillar: Trust	134	8.38	
3.1.1 Secure Internet servers	129	16.76	○
3.1.2 Cybersecurity	133	0.00	○
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	134	25.74	
3.2.1 Regulatory quality	125	27.37	
3.2.2 ICT regulatory environment	126	54.94	
3.2.3 Regulation of emerging technologies	82	33.25	
3.2.4 E-commerce legislation	129	0.00	○
3.2.5 Privacy protection by law content	132	13.12	○
3rd sub-pillar: Inclusion	134	14.69	
3.3.1 E-Participation	98	32.56	
3.3.2 Socioeconomic gap in use of digital payments	131	0.00	○
3.3.3 Availability of local online content	119	26.20	
3.3.4 Gender gap in Internet use	105	0.00	○

Indicator	Rank	Score	
1.3.4 Computer software spending	99	5.48	
B. People pillar	128	17.72	
1st sub-pillar: Individuals	126	17.60	
2.1.1 Mobile broadband internet traffic within the country	121	0.00	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	129	2.74	○
2.1.4 Tertiary enrollment	123	2.18	
2.1.5 Adult literacy rate	89	65.47	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	129	18.35	
2.2.1 Firms with website	99	18.60	
2.2.2 GERD financed by business enterprise	76	10.90	
2.2.3 Knowledge intensive employment	128	0.00	○
2.2.4 Annual investment in telecommunication services	119	61.81	
2.2.5 GERD performed by business enterprise	80	0.46	
3rd sub-pillar: Governments	117	17.21	
2.3.1 Government online services	124	26.79	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	103	21.19	
2.3.4 R&D expenditure by governments and higher education	87	3.66	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	128	31.66	
1st sub-pillar: Economy	127	11.40	
4.1.1 High-tech and medium-high-tech manufacturing	103	2.62	
4.1.2 High-tech exports	130	0.06	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	131	18.98	○
4.1.5 Prevalence of gig economy	91	30.81	
4.1.6 ICT services exports	99	4.53	
2nd sub-pillar: Quality of Life	121	42.75	
4.2.1 Happiness	119	26.46	
4.2.2 Freedom to make life choices	118	45.24	
4.2.3 Income inequality	71	61.31	
4.2.4 Healthy life expectancy at birth	117	37.99	
3rd sub-pillar: SDG Contribution	129	40.82	
4.3.1 SDG 3: Good Health and Well-Being	122	26.46	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	98	66.37	
4.3.4 SDG 7: Affordable and Clean Energy	119	44.36	
4.3.5 SDG 11: Sustainable Cities and Communities	126	26.06	

NOTE: ● a strength and ○ a weakness.

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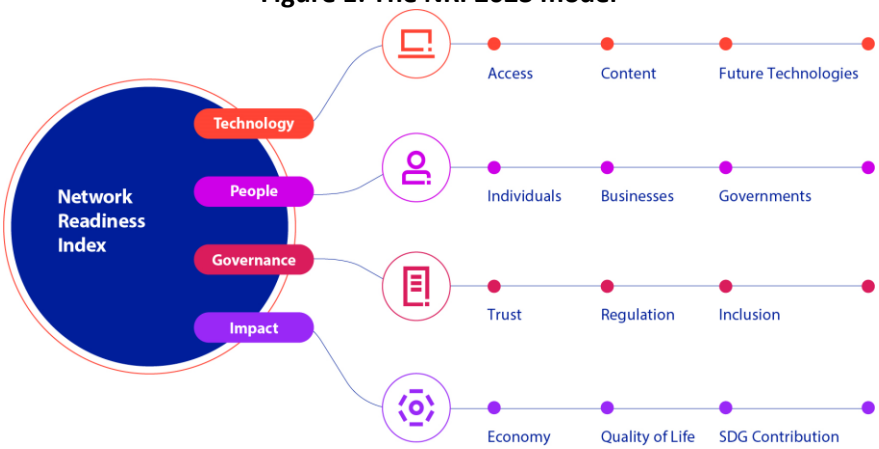
Cabo Verde

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

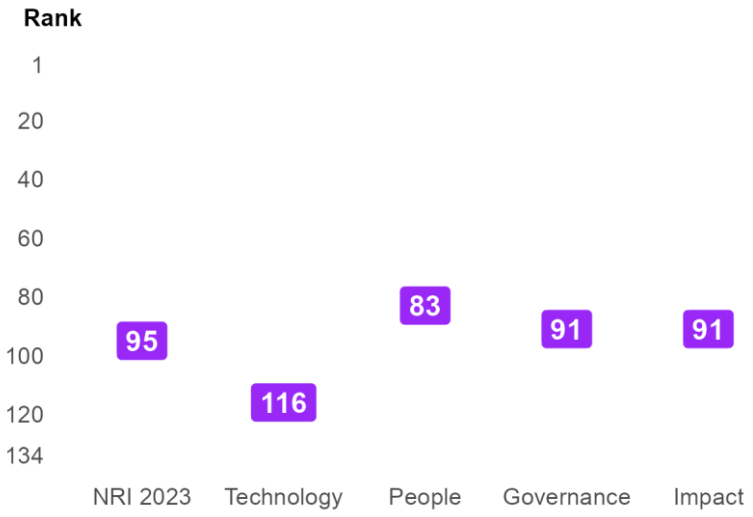
Figure 1: The NRI 2023 model



Global NRI position of Cabo Verde

Cabo Verde ranks 95th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Cabo Verde global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cabo Verde relate to SDG Contribution, Regulation and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Content and Economy sub-pillars.

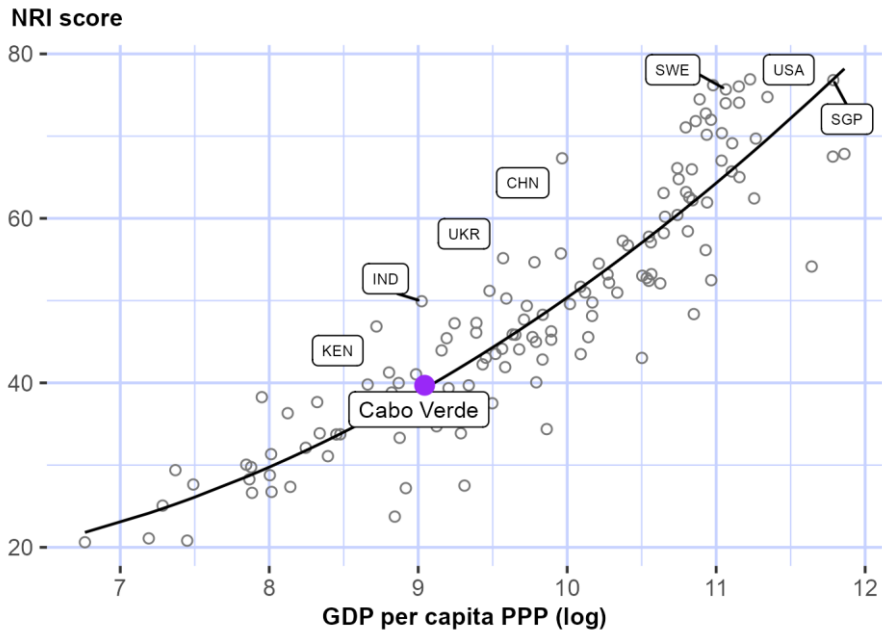
Table 1: Cabo Verde rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	56	Individuals	100
Regulation	58	Inclusion	100
Businesses	63	Trust	103
Future Technologies	76	Access	111
Governments	76	Content	123
Quality of Life	92	Economy	128

NRI score and income

Figure 3 shows the position of Cabo Verde in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cabo Verde is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Cabo Verde belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Cabo Verde is ranked 17th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms lower-middle-income countries in seven of the twelve sub-pillars: Future Technologies, Businesses, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Africa

Cabo Verde is ranked 4th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in ten of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Cabo Verde against its income group and region, overall and by pillar

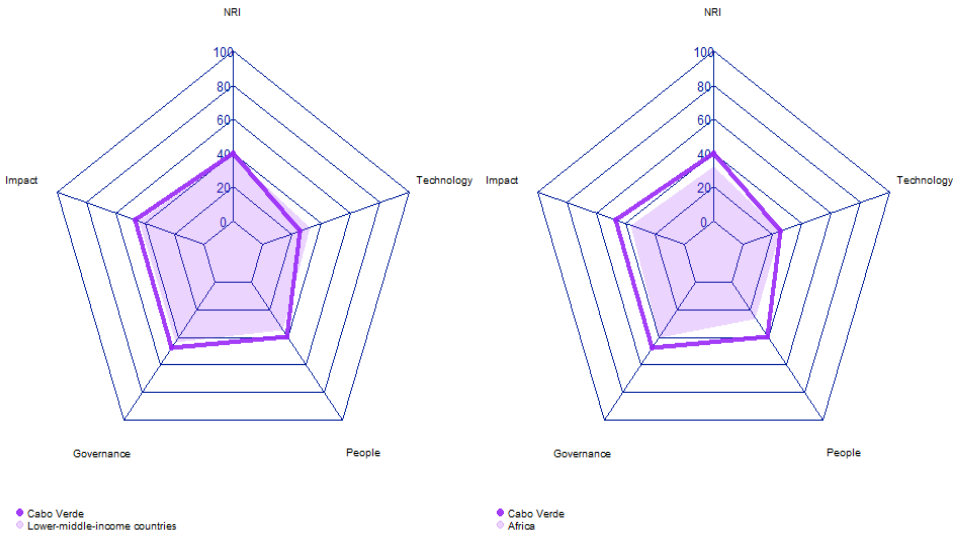


Table 2: Cabo Verde scores vs. averages of its income group and region, overall and by pillar

Dimension	Cabo Verde	Lower-middle-income countries	Africa
NRI	39.70	38.41	32.14
Technology	25.21	32.12	25.14
People	39.17	34.38	26.19
Governance	47.55	43.27	40.44
Impact	46.88	43.89	36.77

Strongest and weakest indicators

The indicators where Cabo Verde performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 1.2.4 AI scientific publications, and 1.1.5 International Internet bandwidth.

Table 3: Highlight of Strengths and Opportunities for Cabo Verde

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.1 Mobile broadband internet traffic within the country	116
4.3.4 SDG 7: Affordable and Clean Energy	24	1.1.3 FTTH/building Internet subscriptions	119
3.2.5 Privacy protection by law content	45	1.1.5 International Internet bandwidth	127
1.3.4 Computer software spending	53	1.2.4 AI scientific publications	131
3.2.1 Regulatory quality	56	4.1.4 Domestic market size	134
4.3.3 SDG 5: Women's economic opportunity	56		
2.1.5 Adult literacy rate	63		
1.1.2 Handset prices	66		
4.3.1 SDG 3: Good Health and Well-Being	76		
4.2.4 Healthy life expectancy at birth	77		
1.2.2 Internet domain registrations	80		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Cabo Verde

Network Readiness Index Rank: 95 (out of 134) Score: 39.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	116	25.21
1st sub-pillar: Access	111	44.18
2nd sub-pillar: Content	123	1.64
3rd sub-pillar: Future Technologies	76	29.82
B. People pillar	83	39.17
1st sub-pillar: Individuals	100	36.64
2nd sub-pillar: Businesses	63	45.51
3rd sub-pillar: Governments	76	35.35

Pillar/sub-pillar	Rank	Score
C. Governance pillar	91	47.55
1st sub-pillar: Trust	103	28.63
2nd sub-pillar: Regulation	58	67.27
3rd sub-pillar: Inclusion	100	46.77
D. Impact pillar	91	46.88
1st sub-pillar: Economy	128	11.04
2nd sub-pillar: Quality of Life	92	60.31
3rd sub-pillar: SDG Contribution	56	69.29

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	116	25.21	
1st sub-pillar: Access	111	44.18	
1.1.1 Mobile tariffs	107	33.07	
1.1.2 Handset prices	66	46.80	●
1.1.3 FTTH/building Internet subscriptions	119	4.51	○
1.1.4 Population covered by at least a 3G mobile network	99	97.89	
1.1.5 International Internet bandwidth	127	53.67	○
1.1.6 Internet access in schools	63	29.14	
2nd sub-pillar: Content	123	1.64	
1.2.1 GitHub commits	94	2.66	
1.2.2 Internet domain registrations	80	2.25	●
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	131	0.01	○
3rd sub-pillar: Future Technologies	76	29.82	
1.3.1 Adoption of emerging technologies	103	29.74	
1.3.2 Investment in emerging technologies	86	34.00	

Indicator	Rank	Score	
C. Governance pillar	91	47.55	
1st sub-pillar: Trust	103	28.63	
3.1.1 Secure Internet servers	94	40.97	
3.1.2 Cybersecurity	121	16.29	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	58	67.27	
3.2.1 Regulatory quality	56	55.78	●
3.2.2 ICT regulatory environment	84	76.12	
3.2.3 Regulation of emerging technologies	86	31.43	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	45	73.00	●
3rd sub-pillar: Inclusion	100	46.77	
3.3.1 E-Participation	115	23.26	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	87	50.48	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	53	25.72	●
B. People pillar	83	39.17	
1st sub-pillar: Individuals	100	36.64	
2.1.1 Mobile broadband internet traffic within the country	116	0.47	○
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	92	44.57	
2.1.4 Tertiary enrollment	95	14.10	
2.1.5 Adult literacy rate	63	87.41	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	63	45.51	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	83	23.40	
2.2.4 Annual investment in telecommunication services	117	67.61	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	76	35.35	
2.3.1 Government online services	97	44.35	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	99	26.35	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	70	66.56	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	91	46.88	
1st sub-pillar: Economy	128	11.04	
4.1.1 High-tech and medium-high-tech manufacturing	90	10.59	
4.1.2 High-tech exports	118	1.13	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	134	0.00	○
4.1.5 Prevalence of gig economy	84	34.01	
4.1.6 ICT services exports	81	9.47	
2nd sub-pillar: Quality of Life	92	60.31	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	90	51.76	
4.2.4 Healthy life expectancy at birth	77	68.87	●
3rd sub-pillar: SDG Contribution	56	69.29	
4.3.1 SDG 3: Good Health and Well-Being	76	67.38	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	56	80.53	●
4.3.4 SDG 7: Affordable and Clean Energy	24	80.27	●
4.3.5 SDG 11: Sustainable Cities and Communities	95	48.98	

NOTE: ● a strength and ○ a weakness.

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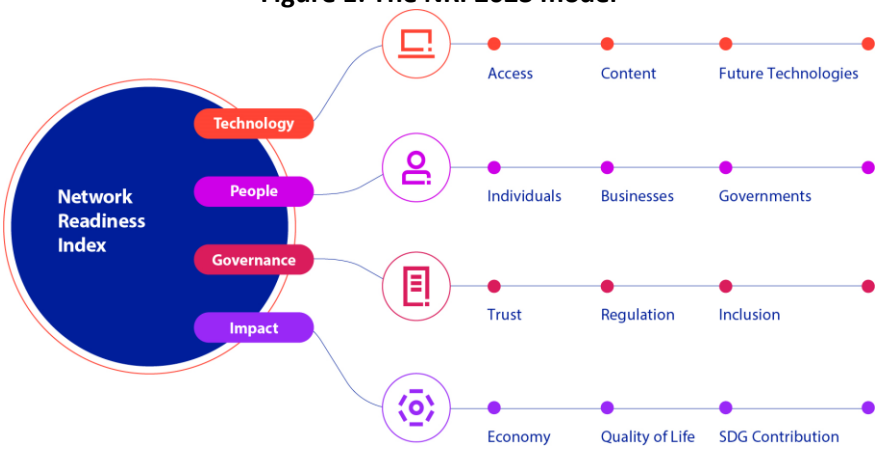
Cambodia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

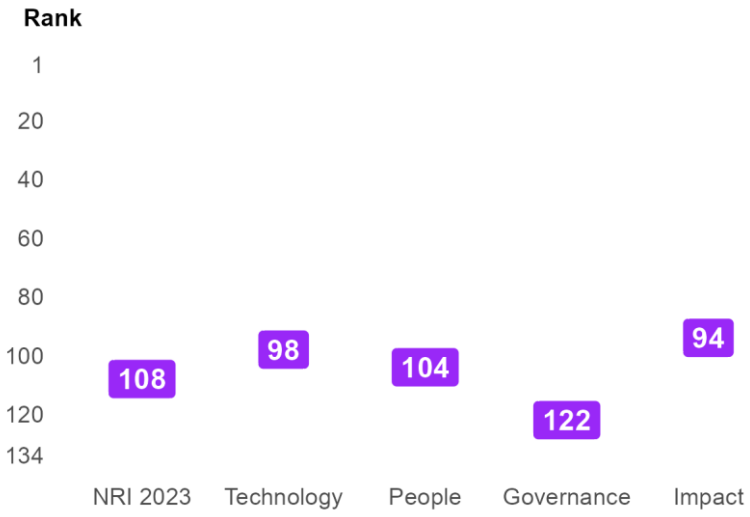
Figure 1: The NRI 2023 model



Global NRI position of Cambodia

Cambodia ranks 108th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Cambodia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cambodia relate to SDG Contribution, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Businesses and Trust sub-pillars.

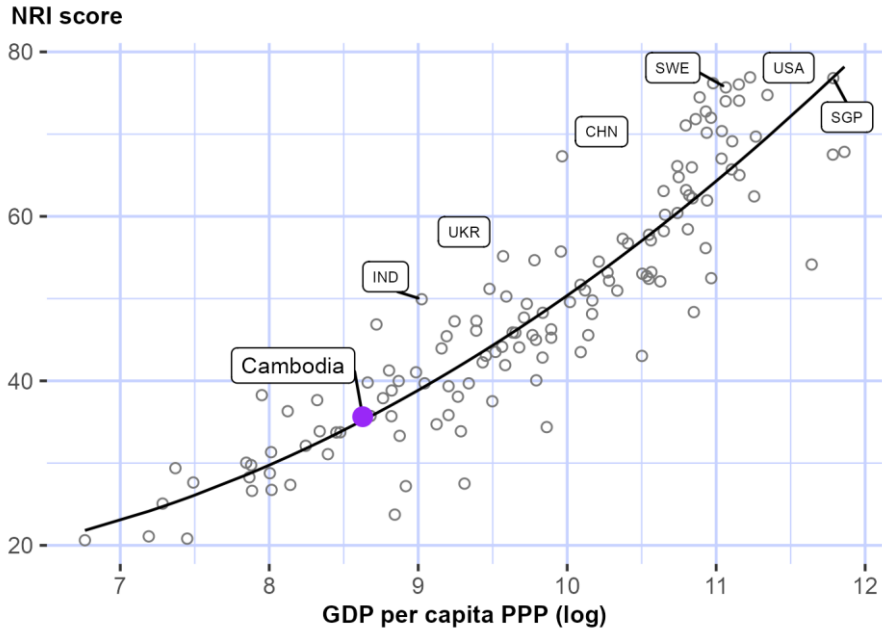
Table 1: Cambodia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	76	Governments	106
Individuals	81	Inclusion	108
Quality of Life	84	Economy	114
Content	85	Regulation	118
Future Technologies	97	Businesses	120
Access	102	Trust	121

NRI score and income

Figure 3 shows the position of Cambodia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cambodia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Cambodia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Cambodia is ranked 27th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Content, Individuals, Quality of Life and SDG Contribution.

Asia & Pacific

Cambodia is ranked 19th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Cambodia against its income group and region, overall and by pillar

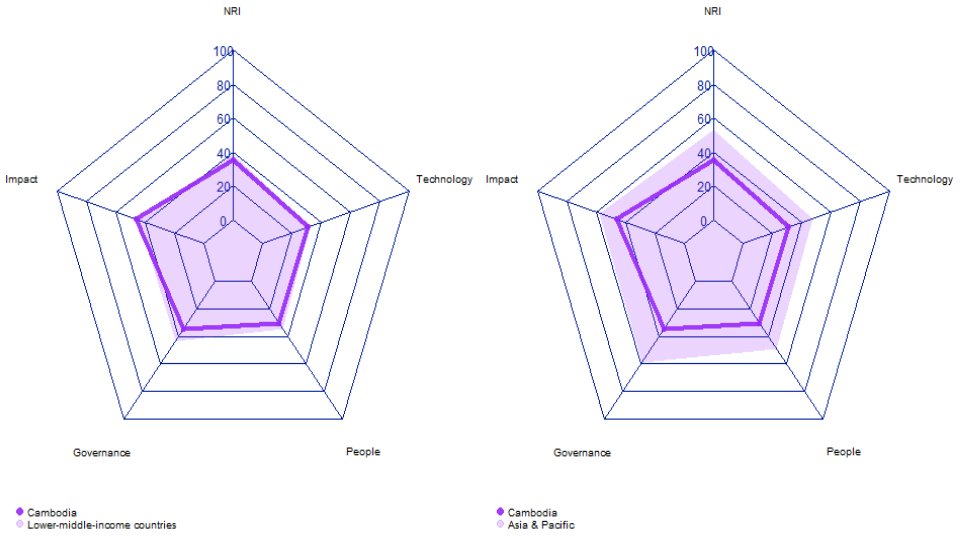


Table 2: Cambodia scores vs. averages of its income group and region, overall and by pillar

Dimension	Cambodia	Lower-middle-income countries	Asia & Pacific
NRI	35.64	38.41	53.28
Technology	31.23	32.12	47.34
People	30.22	34.38	48.95
Governance	34.88	43.27	59.22
Impact	46.23	43.89	57.62

Strongest and weakest indicators

The indicators where Cambodia performs particularly well include 4.2.2 Freedom to make life choices, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.1.3 Online access to financial account, and 2.2.3 Knowledge intensive employment.

Table 3: Highlight of Strengths and Opportunities for Cambodia

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	5	3.2.4 E-commerce legislation	87
2.1.1 Mobile broadband internet traffic within the country	31	4.1.3 PCT patent applications	99
1.1.3 FTTH/building Internet subscriptions	35	2.2.3 Knowledge intensive employment	118
1.2.3 Mobile apps development	55	3.1.3 Online access to financial account	121
1.3.2 Investment in emerging technologies	55	3.2.5 Privacy protection by law content	124
3.3.4 Gender gap in Internet use	62		
2.1.3 Use of virtual social networks	73		
1.1.5 International Internet bandwidth	74		
4.3.3 SDG 5: Women's economic opportunity	76		
1.1.1 Mobile tariffs	86		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Cambodia

Network Readiness Index Rank: 108 (out of 134) Score: 35.64

Pillar/sub-pillar	Rank	Score
A. Technology pillar	98	31.23
1st sub-pillar: Access	102	49.07
2nd sub-pillar: Content	85	18.59
3rd sub-pillar: Future Technologies	97	26.03
B. People pillar	104	30.22
1st sub-pillar: Individuals	81	43.42
2nd sub-pillar: Businesses	120	24.31
3rd sub-pillar: Governments	106	22.92

Pillar/sub-pillar	Rank	Score
C. Governance pillar	122	34.88
1st sub-pillar: Trust	121	17.32
2nd sub-pillar: Regulation	118	44.27
3rd sub-pillar: Inclusion	108	43.06
D. Impact pillar	94	46.23
1st sub-pillar: Economy	114	15.44
2nd sub-pillar: Quality of Life	84	62.76
3rd sub-pillar: SDG Contribution	76	60.48

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	98	31.23	
1st sub-pillar: Access	102	49.07	
1.1.1 Mobile tariffs	86	49.82	●
1.1.2 Handset prices	106	30.39	
1.1.3 FTTH/building Internet subscriptions	35	39.57	●
1.1.4 Population covered by at least a 3G mobile network	102	97.27	
1.1.5 International Internet bandwidth	74	70.32	●
1.1.6 Internet access in schools	76	7.06	
2nd sub-pillar: Content	85	18.59	
1.2.1 GitHub commits	99	2.10	
1.2.2 Internet domain registrations	110	0.42	
1.2.3 Mobile apps development	55	70.14	●
1.2.4 AI scientific publications	93	1.70	
3rd sub-pillar: Future Technologies	97	26.03	
1.3.1 Adoption of emerging technologies	100	32.06	
1.3.2 Investment in emerging technologies	55	43.75	●
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	122	34.88	
1st sub-pillar: Trust	121	17.32	
3.1.1 Secure Internet servers	93	41.95	
3.1.2 Cybersecurity	118	17.70	
3.1.3 Online access to financial account	121	5.27	○
3.1.4 Internet shopping	112	4.34	
2nd sub-pillar: Regulation	118	44.27	
3.2.1 Regulatory quality	108	35.05	
3.2.2 ICT regulatory environment	113	63.53	
3.2.3 Regulation of emerging technologies	87	30.91	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	124	25.18	○
3rd sub-pillar: Inclusion	108	43.06	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	113	43.37	
3.3.3 Availability of local online content	94	45.19	
3.3.4 Gender gap in Internet use	62	67.50	●

Indicator	Rank	Score	
1.3.4 Computer software spending	113	2.28	
B. People pillar	104	30.22	
1st sub-pillar: Individuals	81	43.42	
2.1.1 Mobile broadband internet traffic within the country	31	27.84	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	73	60.90	●
2.1.4 Tertiary enrollment	105	6.92	
2.1.5 Adult literacy rate	73	78.03	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	120	24.31	
2.2.1 Firms with website	101	16.98	
2.2.2 GERD financed by business enterprise	67	24.05	
2.2.3 Knowledge intensive employment	118	5.20	○
2.2.4 Annual investment in telecommunication services	88	74.91	
2.2.5 GERD performed by business enterprise	82	0.38	
3rd sub-pillar: Governments	106	22.92	
2.3.1 Government online services	112	35.69	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	87	31.13	
2.3.4 R&D expenditure by governments and higher education	103	1.95	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	110	32.51	
D. Impact pillar	94	46.23	
1st sub-pillar: Economy	114	15.44	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	92	3.89	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	91	43.14	
4.1.5 Prevalence of gig economy	97	27.62	
4.1.6 ICT services exports	109	2.57	
2nd sub-pillar: Quality of Life	84	62.76	
4.2.1 Happiness	109	35.30	
4.2.2 Freedom to make life choices	5	95.15	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	98	57.83	
3rd sub-pillar: SDG Contribution	76	60.48	
4.3.1 SDG 3: Good Health and Well-Being	97	53.95	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	76	73.45	●
4.3.4 SDG 7: Affordable and Clean Energy	95	63.29	
4.3.5 SDG 11: Sustainable Cities and Communities	86	51.22	

NOTE: ● a strength and ○ a weakness.

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Cameroon

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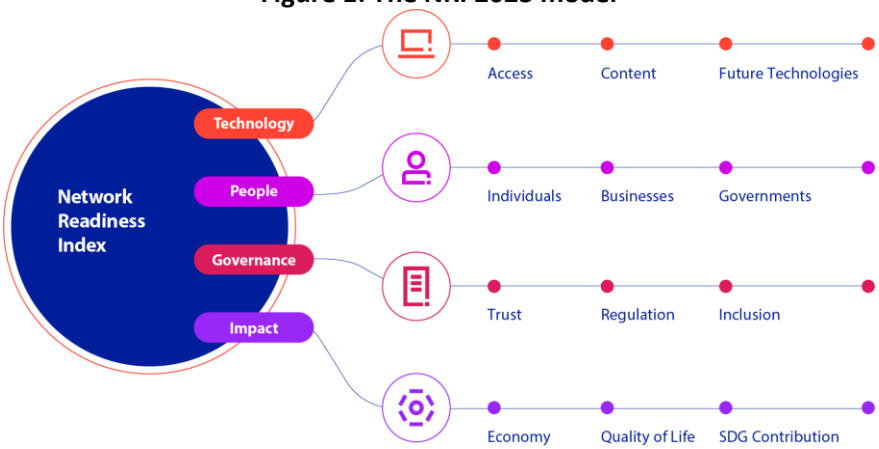
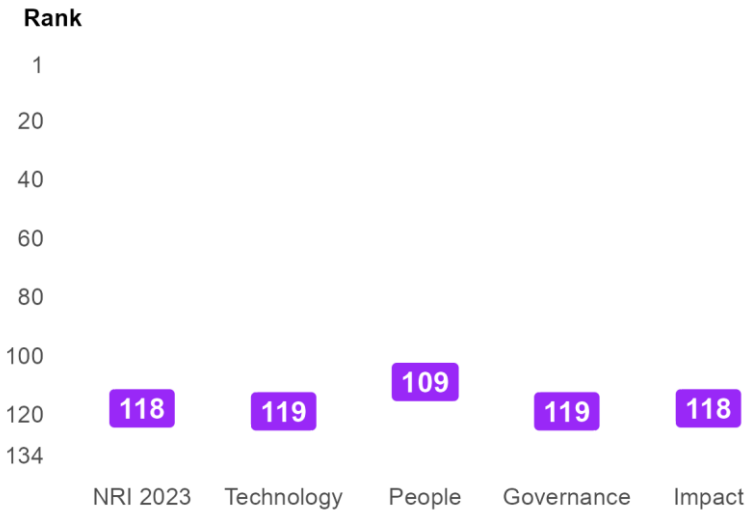
Figure 1: The NRI 2023 model



Global NRI position of Cameroon

Cameroon ranks 118th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology and Governance.

Figure 2: Cameroon global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cameroon relate to Economy, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, SDG Contribution and Access sub-pillars.

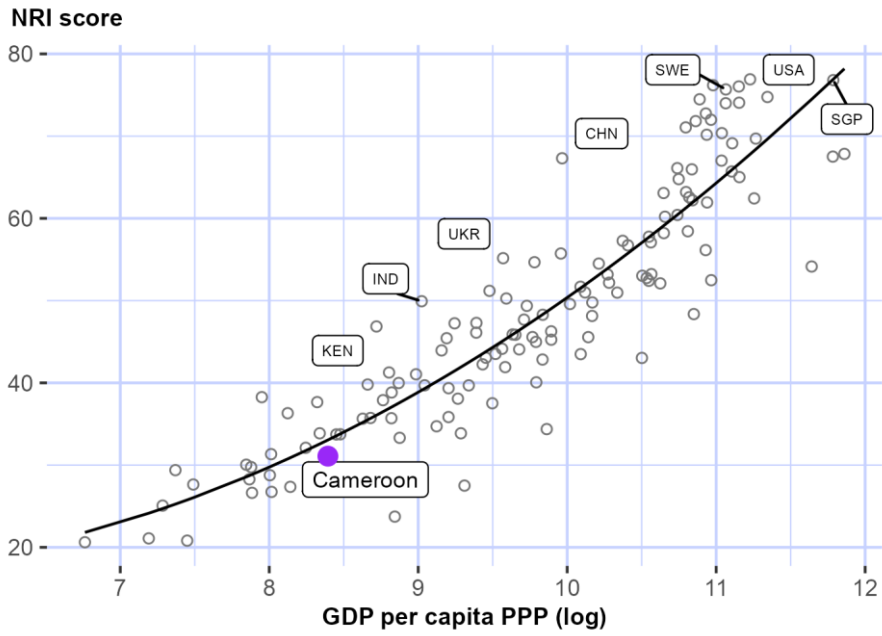
Table 1: Cameroon rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	67	Trust	109
Future Technologies	92	Individuals	113
Businesses	97	Quality of Life	122
Content	100	Inclusion	127
Regulation	107	SDG Contribution	128
Governments	108	Access	132

NRI score and income

Figure 3 shows the position of Cameroon in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cameroon is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Cameroon belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Cameroon is ranked 34th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Regulation and Economy.

Africa

Cameroon is ranked 16th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: People and Impact. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses and Economy.

Figure 4: Performance of Cameroon against its income group and region, overall and by pillar

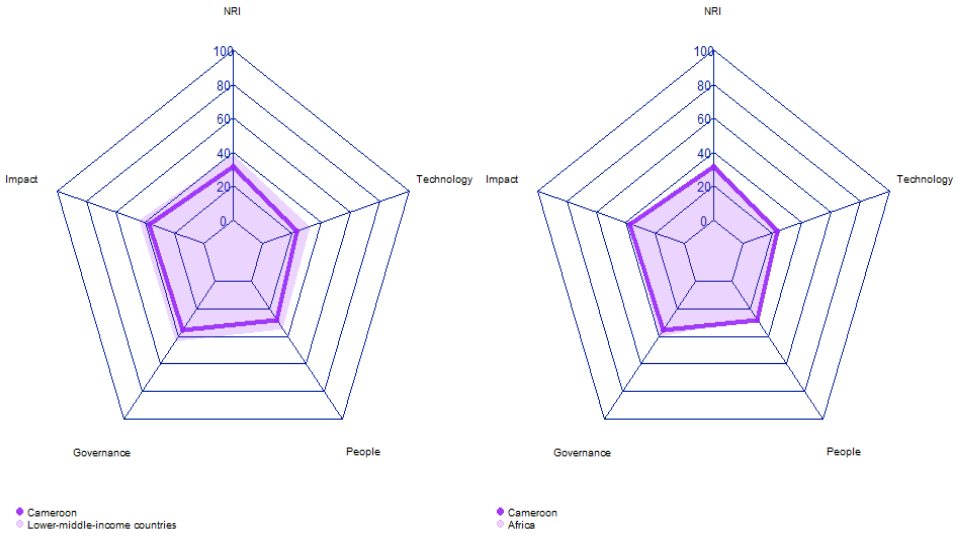


Table 2: Cameroon scores vs. averages of its income group and region, overall and by pillar

Dimension	Cameroon	Lower-middle-income countries	Africa
NRI	31.09	38.41	32.14
Technology	23.29	32.12	25.14
People	28.46	34.38	26.19
Governance	35.79	43.27	40.44
Impact	36.81	43.89	36.77

Strongest and weakest indicators

The indicators where Cameroon performs particularly well include 3.2.4 E-commerce legislation, 4.1.5 Prevalence of gig economy, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.1.4 Population covered by at least a 3G mobile network, 4.3.5 SDG 11: Sustainable Cities and Communities, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Highlight of Strengths and Opportunities for Cameroon

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.2 Publication and use of open data	99
4.1.5 Prevalence of gig economy	41	3.3.4 Gender gap in Internet use	101
4.1.6 ICT services exports	51	2.1.1 Mobile broadband internet traffic within the country	113
1.2.4 AI scientific publications	59	4.3.5 SDG 11: Sustainable Cities and Communities	125
2.1.2 ICT skills in the education system	63	1.1.4 Population covered by at least a 3G mobile network	134
4.1.2 High-tech exports	64		
3.1.3 Online access to financial account	72		
2.2.4 Annual investment in telecommunication services	73		
4.3.4 SDG 7: Affordable and Clean Energy	81		
4.1.4 Domestic market size	85		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Cameroon

Network Readiness Index Rank: 118 (out of 134) Score: 31.09

Pillar/sub-pillar	Rank	Score
A. Technology pillar	119	23.29
1st sub-pillar: Access	132	26.62
2nd sub-pillar: Content	100	16.18
3rd sub-pillar: Future Technologies	92	27.08
B. People pillar	109	28.46
1st sub-pillar: Individuals	113	27.96
2nd sub-pillar: Businesses	97	35.16
3rd sub-pillar: Governments	108	22.26

Pillar/sub-pillar	Rank	Score
C. Governance pillar	119	35.79
1st sub-pillar: Trust	109	24.13
2nd sub-pillar: Regulation	107	53.23
3rd sub-pillar: Inclusion	127	30.00
D. Impact pillar	118	36.81
1st sub-pillar: Economy	67	27.07
2nd sub-pillar: Quality of Life	122	42.36
3rd sub-pillar: SDG Contribution	128	40.99

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	119	23.29	
1st sub-pillar: Access	132	26.62	
1.1.1 Mobile tariffs	114	27.66	
1.1.2 Handset prices	116	24.45	
1.1.3 FTTH/building Internet subscriptions	91	17.96	
1.1.4 Population covered by at least a 3G mobile network	134	0.00	○
1.1.5 International Internet bandwidth	108	63.02	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	100	16.18	
1.2.1 GitHub commits	109	1.38	
1.2.2 Internet domain registrations	104	0.64	
1.2.3 Mobile apps development	97	55.39	
1.2.4 AI scientific publications	59	7.32	•
3rd sub-pillar: Future Technologies	92	27.08	
1.3.1 Adoption of emerging technologies	93	36.36	
1.3.2 Investment in emerging technologies	90	33.25	

Indicator	Rank	Score	
C. Governance pillar	119	35.79	
1st sub-pillar: Trust	109	24.13	
3.1.1 Secure Internet servers	124	22.37	
3.1.2 Cybersecurity	97	44.67	
3.1.3 Online access to financial account	72	24.15	•
3.1.4 Internet shopping	107	5.31	
2nd sub-pillar: Regulation	107	53.23	
3.2.1 Regulatory quality	121	28.76	
3.2.2 ICT regulatory environment	100	68.24	
3.2.3 Regulation of emerging technologies	96	24.94	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	111	44.23	
3rd sub-pillar: Inclusion	127	30.00	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	115	41.96	
3.3.3 Availability of local online content	122	24.76	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	85	11.64	
B. People pillar	109	28.46	
1st sub-pillar: Individuals	113	27.96	
2.1.1 Mobile broadband internet traffic within the country	113	0.75	○
2.1.2 ICT skills in the education system	63	50.11	●
2.1.3 Use of virtual social networks	116	10.85	
2.1.4 Tertiary enrollment	104	7.79	
2.1.5 Adult literacy rate	84	70.28	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	97	35.16	
2.2.1 Firms with website	102	15.13	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	102	13.23	
2.2.4 Annual investment in telecommunication services	73	77.12	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	108	22.26	
2.3.1 Government online services	114	32.76	
2.3.2 Publication and use of open data	99	4.41	○
2.3.3 Government promotion of investment in emerging tech	90	29.62	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	101	22.14	○
3.3.5 Rural gap in use of digital payments	108	34.43	
D. Impact pillar	118	36.81	
1st sub-pillar: Economy	67	27.07	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	64	12.50	●
4.1.3 PCT patent applications	78	1.33	
4.1.4 Domestic market size	85	46.39	●
4.1.5 Prevalence of gig economy	41	56.10	●
4.1.6 ICT services exports	51	19.03	●
2nd sub-pillar: Quality of Life	122	42.36	
4.2.1 Happiness	97	43.89	
4.2.2 Freedom to make life choices	113	49.92	
4.2.3 Income inequality	101	41.21	
4.2.4 Healthy life expectancy at birth	123	34.42	
3rd sub-pillar: SDG Contribution	128	40.99	
4.3.1 SDG 3: Good Health and Well-Being	123	26.36	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	121	43.36	
4.3.4 SDG 7: Affordable and Clean Energy	81	67.85	●
4.3.5 SDG 11: Sustainable Cities and Communities	125	26.38	○

NOTE: ● a strength and ○ a weakness.

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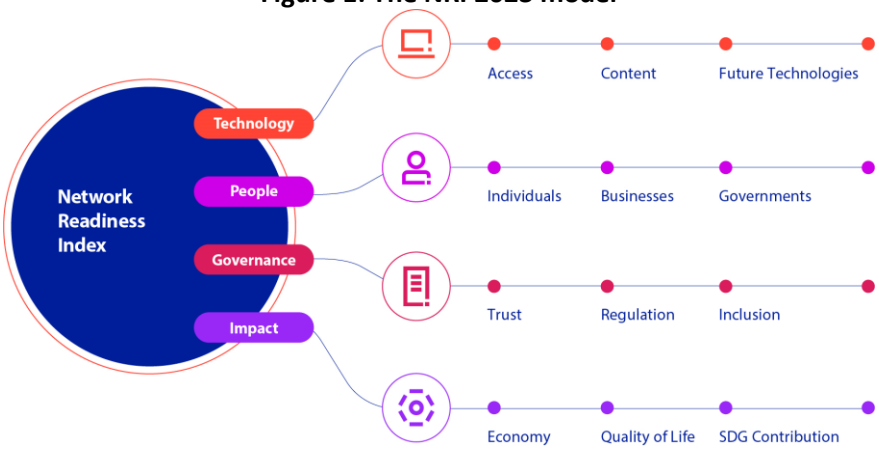
Canada

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

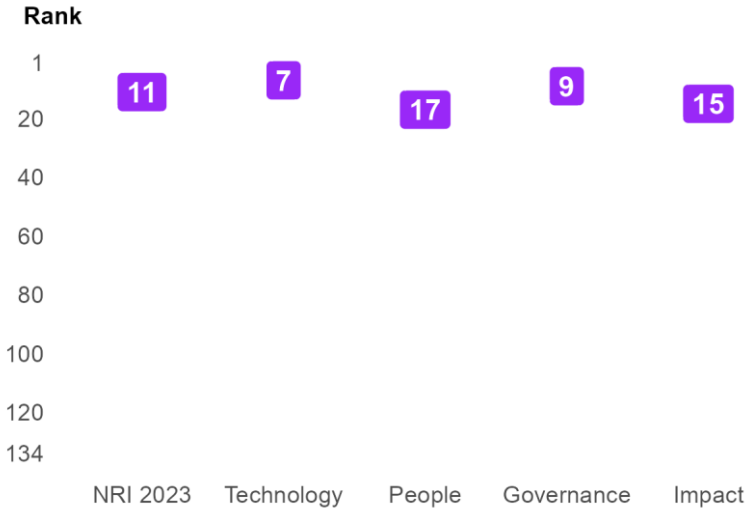
Figure 1: The NRI 2023 model



Global NRI position of Canada

Canada ranks 11th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Canada global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Canada relate to Content, Inclusion and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Access and Individuals sub-pillars.

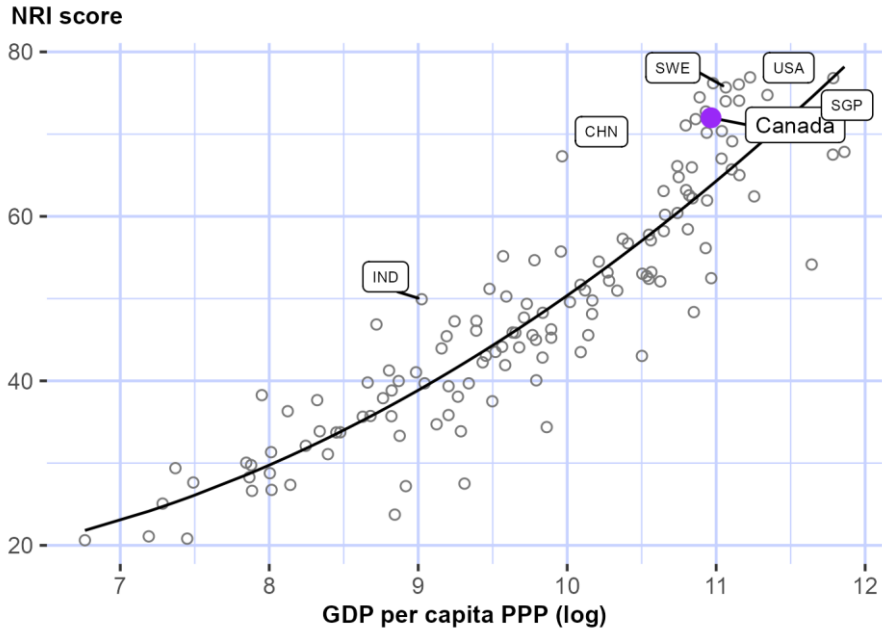
Table 1: Canada rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	5	SDG Contribution	16
Inclusion	5	Quality of Life	18
Trust	9	Economy	20
Governments	10	Businesses	23
Future Technologies	13	Access	26
Regulation	13	Individuals	39

NRI score and income

Figure 3 shows the position of Canada in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Canada is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Canada belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Canada is ranked 11th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

The Americas

Canada is ranked 2nd within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Canada against its income group and region, overall and by pillar

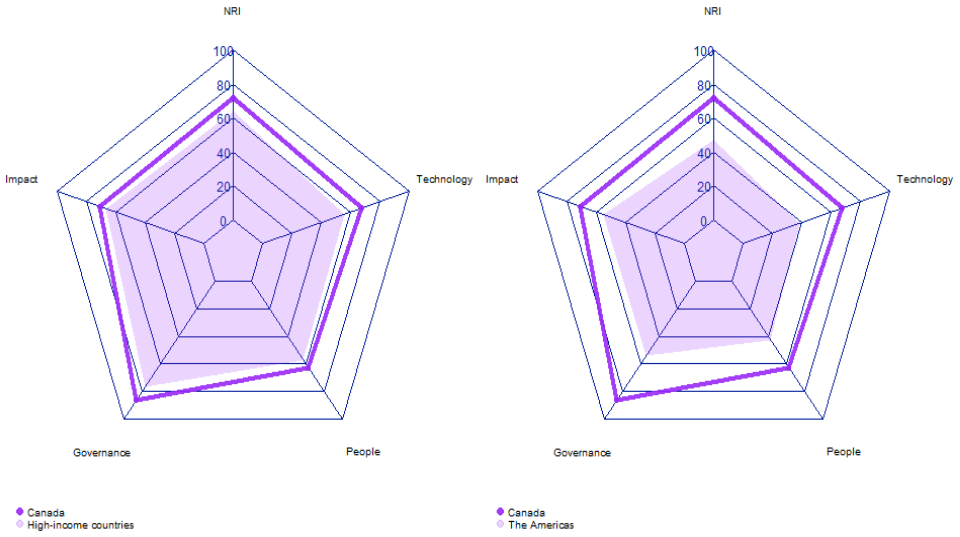


Table 2: Canada scores vs. averages of its income group and region, overall and by pillar

Dimension	Canada	High-income countries	The Americas
NRI	71.99	64.07	47.41
Technology	67.69	55.76	38.24
People	62.84	56.99	42.35
Governance	86.48	76.81	54.12
Impact	70.95	66.73	54.93

Strongest and weakest indicators

The indicators where Canada performs particularly well include 2.3.2 Publication and use of open data, 3.2.4 E-commerce legislation, and 4.3.1 SDG 3: Good Health and Well-Being (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.2.2 Freedom to make life choices, and 4.1.6 ICT services exports.

Table 3: Highlight of Strengths and Opportunities for Canada

Strongest indicators	Rank	Weakest indicators	Rank
2.3.2 Publication and use of open data	1	3.2.2 ICT regulatory environment	53
3.2.4 E-commerce legislation	1	4.1.6 ICT services exports	55
4.3.1 SDG 3: Good Health and Well-Being	1	4.2.2 Freedom to make life choices	56
4.3.3 SDG 5: Women's economic opportunity	1	4.3.4 SDG 7: Affordable and Clean Energy	116
1.2.1 GitHub commits	5		
1.3.4 Computer software spending	5		
2.2.4 Annual investment in telecommunication services	7		
4.3.5 SDG 11: Sustainable Cities and Communities	7		
2.2.1 Firms with website	8		
4.1.5 Prevalence of gig economy	9		
3.1.3 Online access to financial account	10		
1.2.2 Internet domain registrations	11		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Canada

Network Readiness Index — Rank: 11 (out of 134) — Score: 71.99

Pillar/sub-pillar	Rank	Score
A. Technology pillar	7	67.69
1st sub-pillar: Access	26	75.51
2nd sub-pillar: Content	5	66.39
3rd sub-pillar: Future Technologies	13	61.16
B. People pillar	17	62.84
1st sub-pillar: Individuals	39	52.88
2nd sub-pillar: Businesses	23	64.28
3rd sub-pillar: Governments	10	71.36

Pillar/sub-pillar	Rank	Score
C. Governance pillar	9	86.48
1st sub-pillar: Trust	9	86.11
2nd sub-pillar: Regulation	13	87.15
3rd sub-pillar: Inclusion	5	86.17
D. Impact pillar	15	70.95
1st sub-pillar: Economy	20	46.25
2nd sub-pillar: Quality of Life	18	82.30
3rd sub-pillar: SDG Contribution	16	84.30

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	7	67.69	
1st sub-pillar: Access	26	75.51	
1.1.1 Mobile tariffs	36	75.88	
1.1.2 Handset prices	12	81.43	
1.1.3 FTTH/building Internet subscriptions	30	42.64	
1.1.4 Population covered by at least a 3G mobile network	46	99.90	
1.1.5 International Internet bandwidth	31	77.70	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	5	66.39	
1.2.1 GitHub commits	5	95.55	•
1.2.2 Internet domain registrations	11	64.71	•
1.2.3 Mobile apps development	41	72.43	
1.2.4 AI scientific publications	14	32.87	
3rd sub-pillar: Future Technologies	13	61.16	
1.3.1 Adoption of emerging technologies	11	85.04	
1.3.2 Investment in emerging technologies	20	68.25	

Indicator	Rank	Score	
C. Governance pillar	9	86.48	
1st sub-pillar: Trust	9	86.11	
3.1.1 Secure Internet servers	17	84.53	
3.1.2 Cybersecurity	13	97.63	
3.1.3 Online access to financial account	10	81.53	•
3.1.4 Internet shopping	14	80.76	
2nd sub-pillar: Regulation	13	87.15	
3.2.1 Regulatory quality	12	86.13	
3.2.2 ICT regulatory environment	53	86.47	○
3.2.3 Regulation of emerging technologies	16	79.22	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	23	83.95	
3rd sub-pillar: Inclusion	5	86.17	
3.3.1 E-Participation	14	82.55	
3.3.2 Socioeconomic gap in use of digital payments	19	96.33	
3.3.3 Availability of local online content	15	88.70	

Indicator	Rank	Score	
1.3.3 Robot density	16	26.98	
1.3.4 Computer software spending	5	64.36	●
B. People pillar	17	62.84	
1st sub-pillar: Individuals	39	52.88	
2.1.1 Mobile broadband internet traffic within the country	38	19.99	
2.1.2 ICT skills in the education system	15	79.47	
2.1.3 Use of virtual social networks	11	81.13	
2.1.4 Tertiary enrollment	25	51.83	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	11	31.97	
2nd sub-pillar: Businesses	23	64.28	
2.2.1 Firms with website	8	86.41	●
2.2.2 GERD financed by business enterprise	36	54.57	
2.2.3 Knowledge intensive employment	25	66.75	
2.2.4 Annual investment in telecommunication services	7	91.75	●
2.2.5 GERD performed by business enterprise	28	21.91	
3rd sub-pillar: Governments	10	71.36	
2.3.1 Government online services	27	83.47	
2.3.2 Publication and use of open data	1	100.00	●
2.3.3 Government promotion of investment in emerging tech	13	74.16	
2.3.4 R&D expenditure by governments and higher education	25	27.79	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	12	77.09	
D. Impact pillar	15	70.95	
1st sub-pillar: Economy	20	46.25	
4.1.1 High-tech and medium-high-tech manufacturing	34	42.85	
4.1.2 High-tech exports	35	26.91	
4.1.3 PCT patent applications	24	33.28	
4.1.4 Domestic market size	15	74.80	
4.1.5 Prevalence of gig economy	9	81.98	●
4.1.6 ICT services exports	55	17.68	○
2nd sub-pillar: Quality of Life	18	82.30	
4.2.1 Happiness	15	84.91	
4.2.2 Freedom to make life choices	56	77.18	○
4.2.3 Income inequality	33	76.63	
4.2.4 Healthy life expectancy at birth	16	90.48	
3rd sub-pillar: SDG Contribution	16	84.30	
4.3.1 SDG 3: Good Health and Well-Being	1	100.00	●
4.3.2 SDG 4: Quality Education	7	74.55	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	116	50.36	○
4.3.5 SDG 11: Sustainable Cities and Communities	7	96.57	●

NOTE: ● a strength and ○ a weakness.

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Chad

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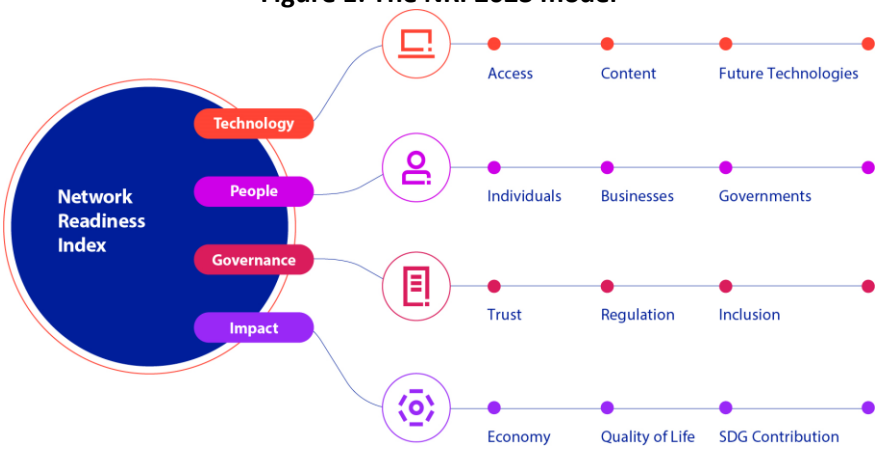
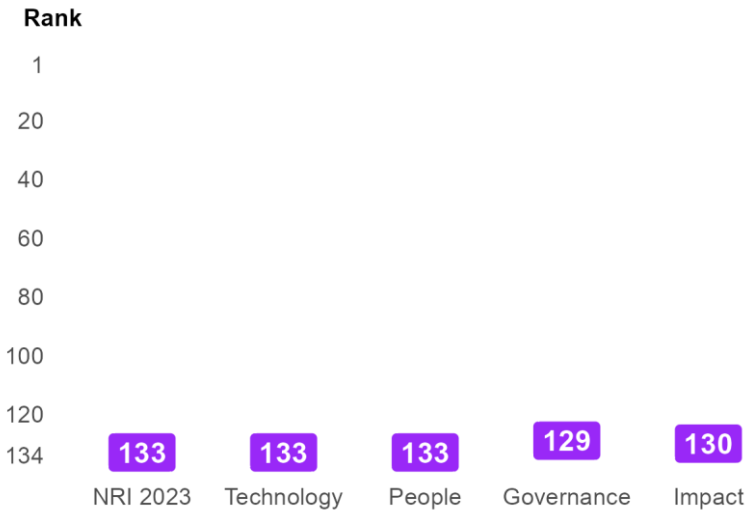
Figure 1: The NRI 2023 model



Global NRI position of Chad

Chad ranks 133rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Chad global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Chad relate to Inclusion, Quality of Life and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Future Technologies and Individuals sub-pillars.

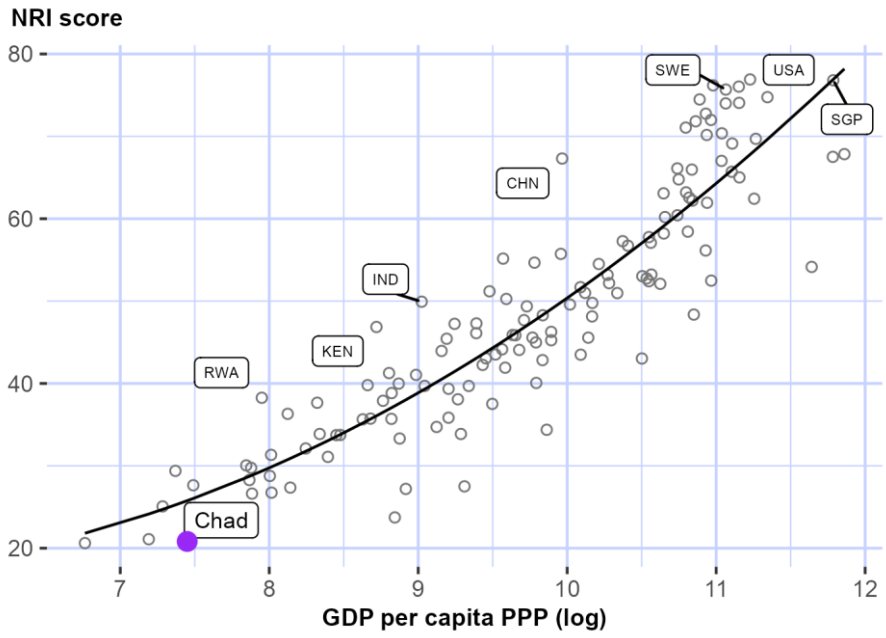
Table 1: Chad rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	115	Access	131
Quality of Life	118	Regulation	132
Businesses	121	SDG Contribution	133
Trust	126	Content	134
Economy	126	Future Technologies	134
Governments	130	Individuals	134

NRI score and income

Figure 3 shows the position of Chad in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Chad is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Chad belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Chad is ranked 11th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in two of the twelve sub-pillars: Inclusion and Quality of Life.

Africa

Chad is ranked 30th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in one of the twelve sub-pillars: Quality of Life.

Figure 4: Performance of Chad against its income group and region, overall and by pillar

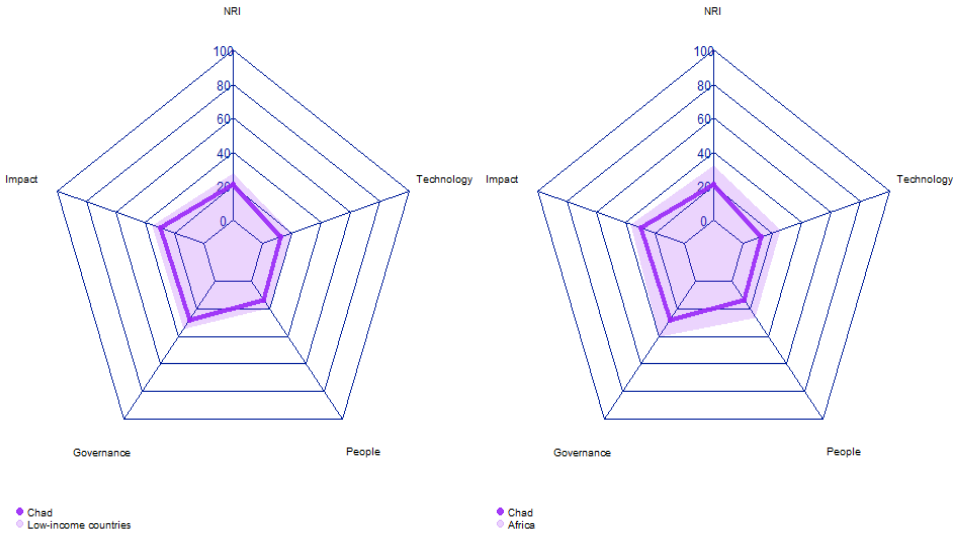


Table 2: Chad scores vs. averages of its income group and region, overall and by pillar

Dimension	Chad	Low-income countries	Africa
NRI	20.82	27.19	32.14
Technology	12.18	19.75	25.14
People	13.73	19.57	26.19
Governance	28.10	34.61	40.44
Impact	29.27	34.82	36.77

Strongest and weakest indicators

The indicators where Chad performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 3.3.5 Rural gap in use of digital payments, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.1.1 Mobile tariffs, 1.2.1 GitHub commits, 2.1.3 Use of virtual social networks, and 3.1.1 Secure Internet servers.

Table 3: Highlight of Strengths and Opportunities for Chad

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	55	4.1.3 PCT patent applications	99
3.3.5 Rural gap in use of digital payments	63	3.2.2 ICT regulatory environment	128
4.2.3 Income inequality	63	2.1.4 Tertiary enrollment	129
3.2.5 Privacy protection by law content	71	2.3.1 Government online services	129
2.3.4 R&D expenditure by governments and higher education	76	3.2.1 Regulatory quality	129
3.3.2 Socioeconomic gap in use of digital payments	83	3.2.4 E-commerce legislation	129
3.1.3 Online access to financial account	89	1.2.2 Internet domain registrations	130
3.1.2 Cybersecurity	99	4.2.4 Healthy life expectancy at birth	130
3.3.1 E-Participation	102	1.1.2 Handset prices	132
4.1.6 ICT services exports	104	3.3.3 Availability of local online content	133
		4.3.1 SDG 3: Good Health and Well-Being	133
		4.3.5 SDG 11: Sustainable Cities and Communities	133
		1.1.1 Mobile tariffs	134
		1.2.1 GitHub commits	134
		2.1.3 Use of virtual social networks	134
		3.1.1 Secure Internet servers	134

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Chad

Network Readiness Index Rank: 133 (out of 134) Score: 20.82

Pillar/sub-pillar	Rank	Score
A. Technology pillar	133	12.18
1st sub-pillar: Access	131	28.40
2nd sub-pillar: Content	134	0.07
3rd sub-pillar: Future Technologies	134	8.06
B. People pillar	133	13.73
1st sub-pillar: Individuals	134	6.37
2nd sub-pillar: Businesses	121	23.49
3rd sub-pillar: Governments	130	11.32

Pillar/sub-pillar	Rank	Score
C. Governance pillar	129	28.10
1st sub-pillar: Trust	126	15.07
2nd sub-pillar: Regulation	132	29.36
3rd sub-pillar: Inclusion	115	39.86
D. Impact pillar	130	29.27
1st sub-pillar: Economy	126	11.41
2nd sub-pillar: Quality of Life	118	44.72
3rd sub-pillar: SDG Contribution	133	31.68

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	133	12.18	
1st sub-pillar: Access	131	28.40	
1.1.1 Mobile tariffs	134	0.00	○
1.1.2 Handset prices	132	0.00	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	126	85.83	
1.1.5 International Internet bandwidth	124	56.16	
1.1.6 Internet access in schools	84	0.00	
2nd sub-pillar: Content	134	0.07	
1.2.1 GitHub commits	134	0.00	○
1.2.2 Internet domain registrations	130	0.05	○
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	125	0.15	
3rd sub-pillar: Future Technologies	134	8.06	
1.3.1 Adoption of emerging technologies	125	3.37	
1.3.2 Investment in emerging technologies	127	12.75	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	129	28.10	
1st sub-pillar: Trust	126	15.07	
3.1.1 Secure Internet servers	134	0.00	○
3.1.2 Cybersecurity	99	39.39	
3.1.3 Online access to financial account	89	16.73	
3.1.4 Internet shopping	113	4.16	
2nd sub-pillar: Regulation	132	29.36	
3.2.1 Regulatory quality	129	23.51	○
3.2.2 ICT regulatory environment	128	52.59	○
3.2.3 Regulation of emerging technologies	111	8.31	
3.2.4 E-commerce legislation	129	0.00	○
3.2.5 Privacy protection by law content	71	62.39	
3rd sub-pillar: Inclusion	115	39.86	
3.3.1 E-Participation	102	30.24	
3.3.2 Socioeconomic gap in use of digital payments	83	64.74	
3.3.3 Availability of local online content	133	0.00	○
3.3.4 Gender gap in Internet use	NA	NA	

Indicator	Rank	Score	
1.3.4 Computer software spending	NA	NA	
B. People pillar	133	13.73	
1st sub-pillar: Individuals	134	6.37	
2.1.1 Mobile broadband internet traffic within the country	114	0.58	
2.1.2 ICT skills in the education system	86	30.93	
2.1.3 Use of virtual social networks	134	0.00	○
2.1.4 Tertiary enrollment	129	0.36	○
2.1.5 Adult literacy rate	106	0.00	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	121	23.49	
2.2.1 Firms with website	112	0.00	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	127	0.18	
2.2.4 Annual investment in telecommunication services	115	70.28	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	130	11.32	
2.3.1 Government online services	129	19.61	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	117	9.12	
2.3.4 R&D expenditure by governments and higher education	76	5.23	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	63	64.45	
D. Impact pillar	130	29.27	
1st sub-pillar: Economy	126	11.41	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	125	31.64	
4.1.5 Prevalence of gig economy	119	10.76	
4.1.6 ICT services exports	104	3.23	
2nd sub-pillar: Quality of Life	118	44.72	
4.2.1 Happiness	104	38.02	
4.2.2 Freedom to make life choices	112	50.75	
4.2.3 Income inequality	63	64.07	
4.2.4 Healthy life expectancy at birth	130	26.04	○
3rd sub-pillar: SDG Contribution	133	31.68	
4.3.1 SDG 3: Good Health and Well-Being	133	0.00	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	115	52.21	
4.3.4 SDG 7: Affordable and Clean Energy	55	74.49	
4.3.5 SDG 11: Sustainable Cities and Communities	133	0.00	○

NOTE: ● a strength and ○ a weakness.

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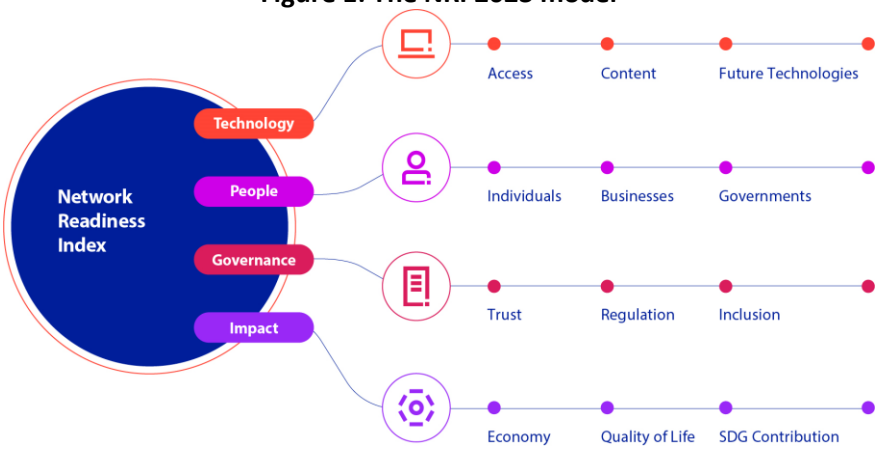
Chile

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

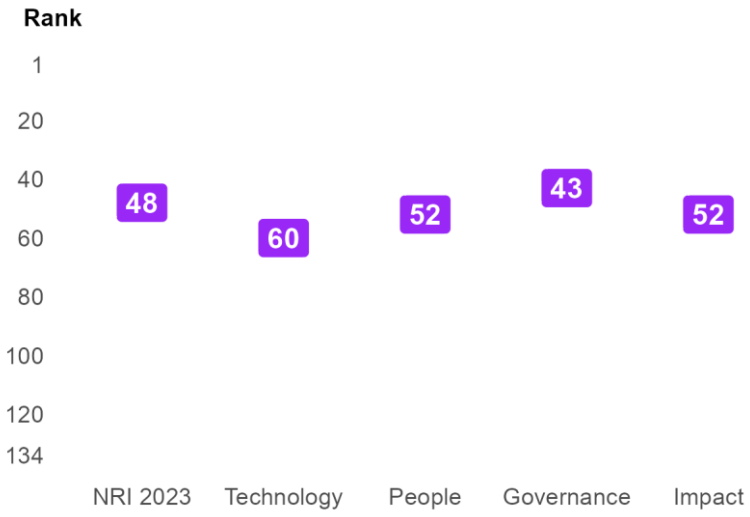
Figure 1: The NRI 2023 model



Global NRI position of Chile

Chile ranks 48th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Chile global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Chile relate to Individuals, Regulation and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and Access sub-pillars.

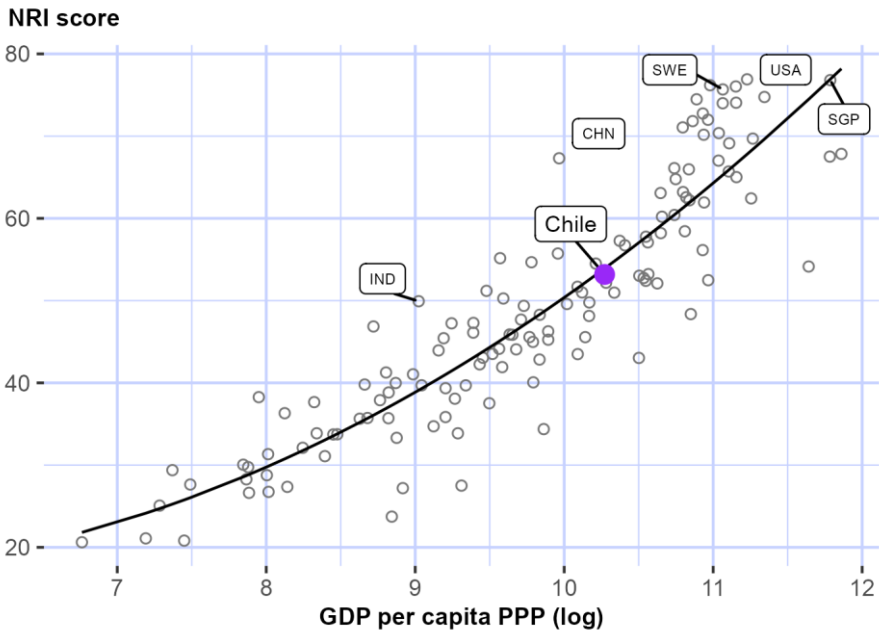
Table 1: Chile rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	40	Governments	54
Regulation	40	Quality of Life	62
Trust	47	Economy	65
Inclusion	48	Content	67
Future Technologies	50	Businesses	68
SDG Contribution	53	Access	70

NRI score and income

Figure 3 shows the position of Chile in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Chile is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Chile belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Chile is ranked 41st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

The Americas

Chile is ranked 5th within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in ten of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Chile against its income group and region, overall and by pillar

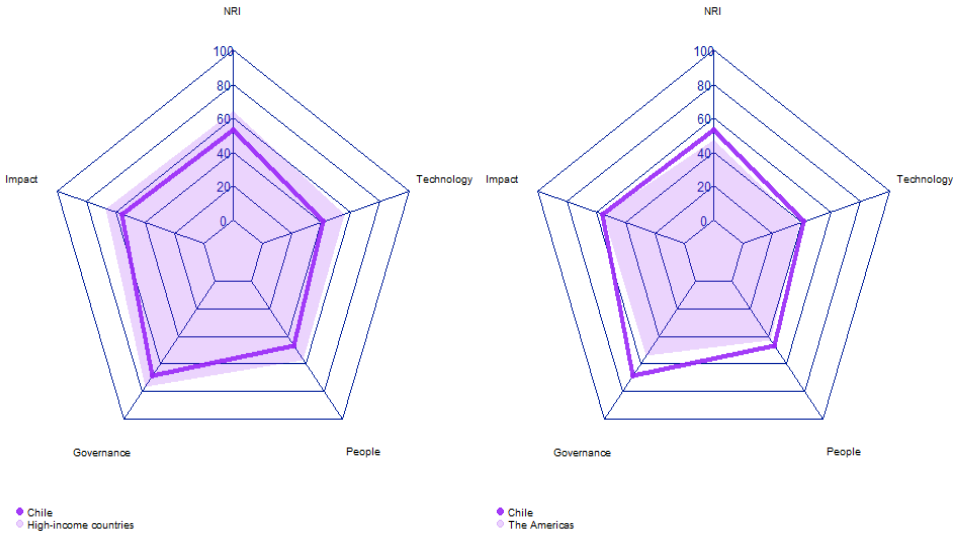


Table 2: Chile scores vs. averages of its income group and region, overall and by pillar

Dimension	Chile	High-income countries	The Americas
NRI	53.18	64.07	47.41
Technology	41.47	55.76	38.24
People	46.78	56.99	42.35
Governance	68.65	76.81	54.12
Impact	55.82	66.73	54.93

Strongest and weakest indicators

The indicators where Chile performs particularly well include 3.2.4 E-commerce legislation, 3.3.2 Socioeconomic gap in use of digital payments, and 2.1.4 Tertiary enrollment (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.2.3 Income inequality, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Highlight of Strengths and Opportunities for Chile

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	45
3.3.2 Socioeconomic gap in use of digital payments	11	1.3.3 Robot density	52
2.1.4 Tertiary enrollment	12	1.1.4 Population covered by at least a 3G mobile network	93
2.1.3 Use of virtual social networks	16	4.2.3 Income inequality	96
1.3.4 Computer software spending	21	4.1.6 ICT services exports	98
1.1.5 International Internet bandwidth	23		
2.1.1 Mobile broadband internet traffic within the country	25		
1.1.3 FTTH/building Internet subscriptions	26		
2.3.1 Government online services	30		
4.2.4 Healthy life expectancy at birth	30		
4.3.1 SDG 3: Good Health and Well-Being	30		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Chile

Network Readiness Index — Rank: 48 (out of 134) — Score: 53.18

Pillar/sub-pillar	Rank	Score
A. Technology pillar	60	41.47
1st sub-pillar: Access	70	63.70
2nd sub-pillar: Content	67	22.76
3rd sub-pillar: Future Technologies	50	37.93
B. People pillar	52	46.78
1st sub-pillar: Individuals	40	52.76
2nd sub-pillar: Businesses	68	44.56
3rd sub-pillar: Governments	54	43.00

Pillar/sub-pillar	Rank	Score
C. Governance pillar	43	68.65
1st sub-pillar: Trust	47	59.81
2nd sub-pillar: Regulation	40	75.51
3rd sub-pillar: Inclusion	48	70.64
D. Impact pillar	52	55.82
1st sub-pillar: Economy	65	28.32
2nd sub-pillar: Quality of Life	62	69.30
3rd sub-pillar: SDG Contribution	53	69.85

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	60	41.47	
1st sub-pillar: Access	70	63.70	
1.1.1 Mobile tariffs	49	71.57	
1.1.2 Handset prices	58	52.99	
1.1.3 FTTH/building Internet subscriptions	26	44.42	•
1.1.4 Population covered by at least a 3G mobile network	93	98.31	○
1.1.5 International Internet bandwidth	23	80.55	•
1.1.6 Internet access in schools	59	34.35	
2nd sub-pillar: Content	67	22.76	
1.2.1 GitHub commits	56	8.96	
1.2.2 Internet domain registrations	46	9.58	
1.2.3 Mobile apps development	71	64.50	
1.2.4 AI scientific publications	55	8.01	
3rd sub-pillar: Future Technologies	50	37.93	
1.3.1 Adoption of emerging technologies	36	61.55	
1.3.2 Investment in emerging technologies	69	38.50	

Indicator	Rank	Score	
C. Governance pillar	43	68.65	
1st sub-pillar: Trust	47	59.81	
3.1.1 Secure Internet servers	40	75.46	
3.1.2 Cybersecurity	81	68.28	
3.1.3 Online access to financial account	47	39.41	
3.1.4 Internet shopping	40	56.09	
2nd sub-pillar: Regulation	40	75.51	
3.2.1 Regulatory quality	31	71.14	
3.2.2 ICT regulatory environment	41	88.24	
3.2.3 Regulation of emerging technologies	51	50.39	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	60	67.81	
3rd sub-pillar: Inclusion	48	70.64	
3.3.1 E-Participation	43	68.61	
3.3.2 Socioeconomic gap in use of digital payments	11	97.84	•
3.3.3 Availability of local online content	54	66.35	

Indicator	Rank	Score	
1.3.3 Robot density	52	0.57	○
1.3.4 Computer software spending	21	51.12	●
B. People pillar	52	46.78	
1st sub-pillar: Individuals	40	52.76	
2.1.1 Mobile broadband internet traffic within the country	25	32.37	●
2.1.2 ICT skills in the education system	68	46.86	
2.1.3 Use of virtual social networks	16	79.86	●
2.1.4 Tertiary enrollment	12	60.04	●
2.1.5 Adult literacy rate	38	95.96	
2.1.6 AI talent concentration	45	1.50	○
2nd sub-pillar: Businesses	68	44.56	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	54	42.98	
2.2.3 Knowledge intensive employment	45	47.45	
2.2.4 Annual investment in telecommunication services	30	84.77	
2.2.5 GERD performed by business enterprise	60	3.05	
3rd sub-pillar: Governments	54	43.00	
2.3.1 Government online services	30	80.99	●
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	64	38.06	
2.3.4 R&D expenditure by governments and higher education	73	5.89	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	74	65.12	
3.3.5 Rural gap in use of digital payments	81	55.27	
D. Impact pillar	52	55.82	
1st sub-pillar: Economy	65	28.32	
4.1.1 High-tech and medium-high-tech manufacturing	54	28.72	
4.1.2 High-tech exports	41	22.32	
4.1.3 PCT patent applications	36	12.30	
4.1.4 Domestic market size	44	61.57	
4.1.5 Prevalence of gig economy	65	40.41	
4.1.6 ICT services exports	98	4.58	○
2nd sub-pillar: Quality of Life	62	69.30	
4.2.1 Happiness	32	75.56	
4.2.2 Freedom to make life choices	76	69.72	
4.2.3 Income inequality	96	45.48	○
4.2.4 Healthy life expectancy at birth	30	86.45	●
3rd sub-pillar: SDG Contribution	53	69.85	
4.3.1 SDG 3: Good Health and Well-Being	30	84.45	●
4.3.2 SDG 4: Quality Education	45	42.32	
4.3.3 SDG 5: Women's economic opportunity	83	71.68	
4.3.4 SDG 7: Affordable and Clean Energy	59	73.99	
4.3.5 SDG 11: Sustainable Cities and Communities	45	76.81	

NOTE: ● a strength and ○ a weakness.

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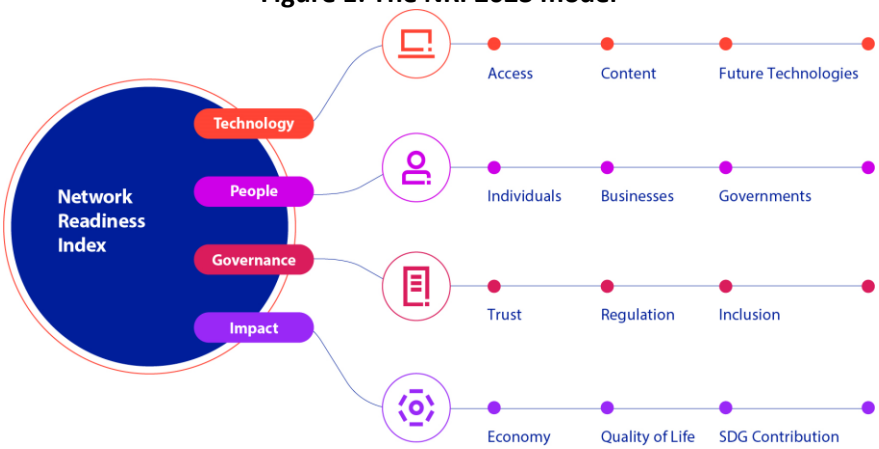
China

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

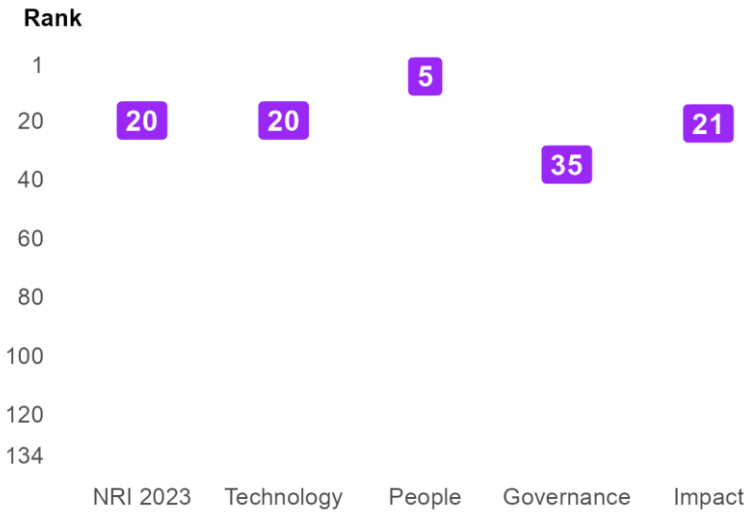
Figure 1: The NRI 2023 model



Global NRI position of China

China ranks 20th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: China global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of China relate to Access, Economy and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, SDG Contribution and Regulation sub-pillars.

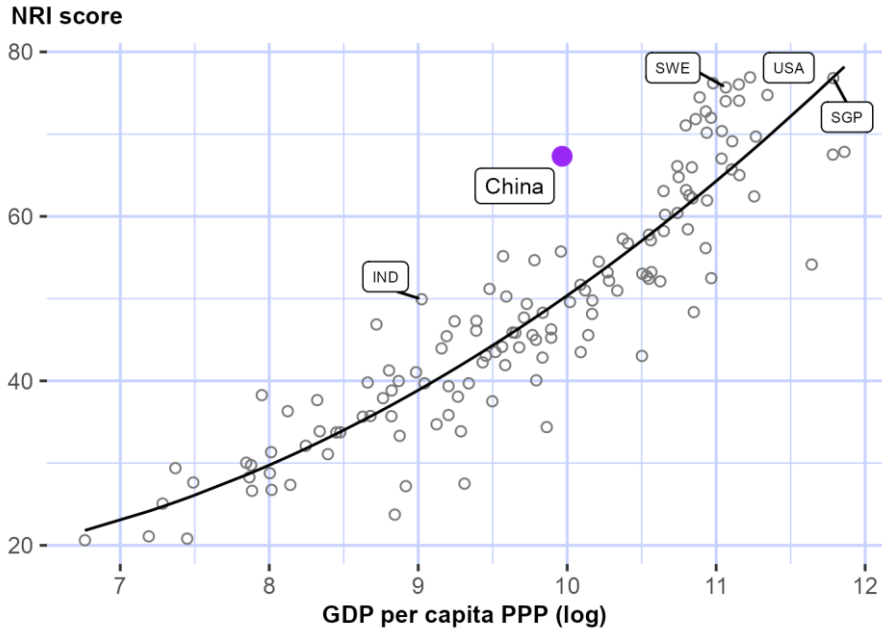
Table 1: China rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	1	Future Technologies	26
Economy	4	Trust	27
Individuals	6	Content	39
Businesses	6	Quality of Life	51
Governments	16	SDG Contribution	57
Inclusion	19	Regulation	84

NRI score and income

Figure 3 shows the position of China in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, China is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). China belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

China is ranked 1st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

China is ranked 5th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of China against its income group and region, overall and by pillar

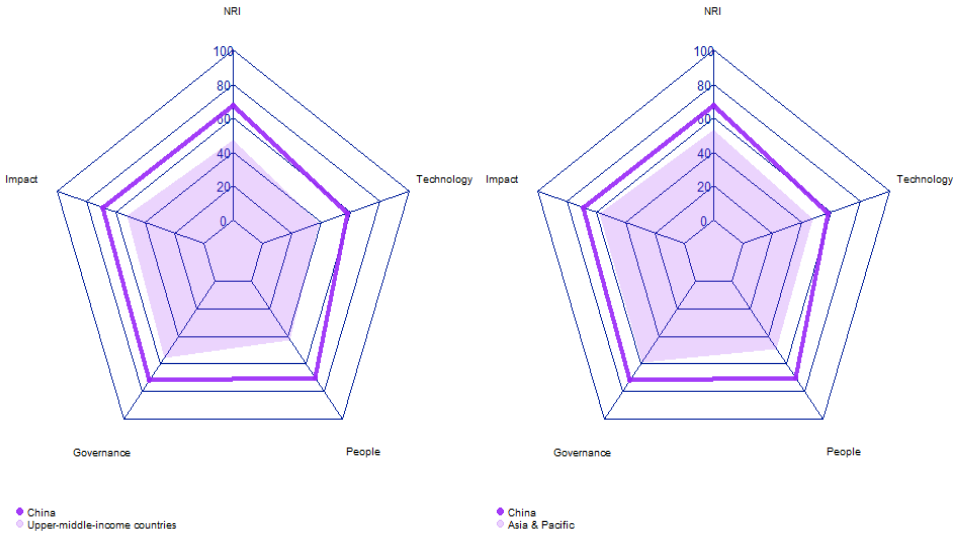


Table 2: China scores vs. averages of its income group and region, overall and by pillar

Dimension	China	Upper-middle-income countries	Asia & Pacific
NRI	67.31	47.35	53.28
Technology	57.89	38.48	47.34
People	70.46	42.59	48.95
Governance	71.96	55.90	59.22
Impact	68.92	52.43	57.62

Strongest and weakest indicators

The indicators where China performs particularly well include 1.1.3 FTTH/building Internet subscriptions, 1.2.4 AI scientific publications, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.2.2 ICT regulatory environment, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Highlight of Strengths and Opportunities for China

Strongest indicators	Rank	Weakest indicators	Rank
1.1.3 FTTH/building Internet subscriptions	1	1.2.1 GitHub commits	106
1.2.4 AI scientific publications	1	4.3.4 SDG 7: Affordable and Clean Energy	109
2.1.1 Mobile broadband internet traffic within the country	1	3.2.2 ICT regulatory environment	120
2.3.3 Government promotion of investment in emerging technologies	1	4.3.5 SDG 11: Sustainable Cities and Communities	120
3.2.4 E-commerce legislation	1	3.2.5 Privacy protection by law content	123
4.1.4 Domestic market size	1		
4.1.5 Prevalence of gig economy	1		
4.3.2 SDG 4: Quality Education	1		
2.2.4 Annual investment in telecommunication services	2		
1.1.5 International Internet bandwidth	3		
2.2.2 GERD financed by business enterprise	3		
3.1.4 Internet shopping	3		
3.3.3 Availability of local online content	3		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: China

Network Readiness Index — Rank: 20 (out of 134) — Score: 67.31

Pillar/sub-pillar	Rank	Score
A. Technology pillar	20	57.89
1st sub-pillar: Access	1	89.25
2nd sub-pillar: Content	39	35.29
3rd sub-pillar: Future Technologies	26	49.15
B. People pillar	5	70.46
1st sub-pillar: Individuals	6	68.41
2nd sub-pillar: Businesses	6	76.81
3rd sub-pillar: Governments	16	66.15

Pillar/sub-pillar	Rank	Score
C. Governance pillar	35	71.96
1st sub-pillar: Trust	27	73.82
2nd sub-pillar: Regulation	84	61.91
3rd sub-pillar: Inclusion	19	80.15
D. Impact pillar	21	68.92
1st sub-pillar: Economy	4	64.44
2nd sub-pillar: Quality of Life	51	73.05
3rd sub-pillar: SDG Contribution	57	69.25

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	20	57.89	
1st sub-pillar: Access	1	89.25	
1.1.1 Mobile tariffs	40	75.27	
1.1.2 Handset prices	37	66.69	
1.1.3 FTTH/building Internet subscriptions	1	100.00	●
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	3	94.98	●
1.1.6 Internet access in schools	32	98.56	
2nd sub-pillar: Content	39	35.29	
1.2.1 GitHub commits	106	1.76	○
1.2.2 Internet domain registrations	63	4.10	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	1	100.00	●
3rd sub-pillar: Future Technologies	26	49.15	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	33	59.75	

Indicator	Rank	Score	
C. Governance pillar	35	71.96	
1st sub-pillar: Trust	27	73.82	
3.1.1 Secure Internet servers	64	54.70	
3.1.2 Cybersecurity	40	92.40	
3.1.3 Online access to financial account	28	55.81	
3.1.4 Internet shopping	3	92.37	●
2nd sub-pillar: Regulation	84	61.91	
3.2.1 Regulatory quality	87	42.52	
3.2.2 ICT regulatory environment	120	57.65	○
3.2.3 Regulation of emerging technologies	7	83.90	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	123	25.49	○
3rd sub-pillar: Inclusion	19	80.15	
3.3.1 E-Participation	13	86.04	
3.3.2 Socioeconomic gap in use of digital payments	51	83.52	
3.3.3 Availability of local online content	3	97.12	●

Indicator	Rank	Score	
1.3.3 Robot density	5	53.67	
1.3.4 Computer software spending	27	34.02	
B. People pillar	5	70.46	
1st sub-pillar: Individuals	6	68.41	
2.1.1 Mobile broadband internet traffic within the country	1	100.00	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	61	67.74	
2.1.4 Tertiary enrollment	49	41.09	
2.1.5 Adult literacy rate	36	96.11	
2.1.6 AI talent concentration	8	37.12	
2nd sub-pillar: Businesses	6	76.81	
2.2.1 Firms with website	42	65.39	
2.2.2 GERD financed by business enterprise	3	95.82	●
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	2	98.94	●
2.2.5 GERD performed by business enterprise	13	47.11	
3rd sub-pillar: Governments	16	66.15	
2.3.1 Government online services	15	87.58	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	1	100.00	●
2.3.4 R&D expenditure by governments and higher education	14	43.21	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	42	69.81	
3.3.5 Rural gap in use of digital payments	64	64.25	
D. Impact pillar	21	68.92	
1st sub-pillar: Economy	4	64.44	
4.1.1 High-tech and medium-high-tech manufacturing	13	60.86	
4.1.2 High-tech exports	10	54.10	
4.1.3 PCT patent applications	14	52.81	
4.1.4 Domestic market size	1	100.00	●
4.1.5 Prevalence of gig economy	1	100.00	●
4.1.6 ICT services exports	52	18.90	
2nd sub-pillar: Quality of Life	51	73.05	
4.2.1 Happiness	68	65.29	
4.2.2 Freedom to make life choices	37	83.25	
4.2.3 Income inequality	68	62.31	
4.2.4 Healthy life expectancy at birth	41	81.36	
3rd sub-pillar: SDG Contribution	57	69.25	
4.3.1 SDG 3: Good Health and Well-Being	27	88.24	
4.3.2 SDG 4: Quality Education	1	100.00	●
4.3.3 SDG 5: Women's economic opportunity	93	69.03	
4.3.4 SDG 7: Affordable and Clean Energy	109	54.48	○
4.3.5 SDG 11: Sustainable Cities and Communities	120	34.51	○

NOTE: ● a strength and ○ a weakness.

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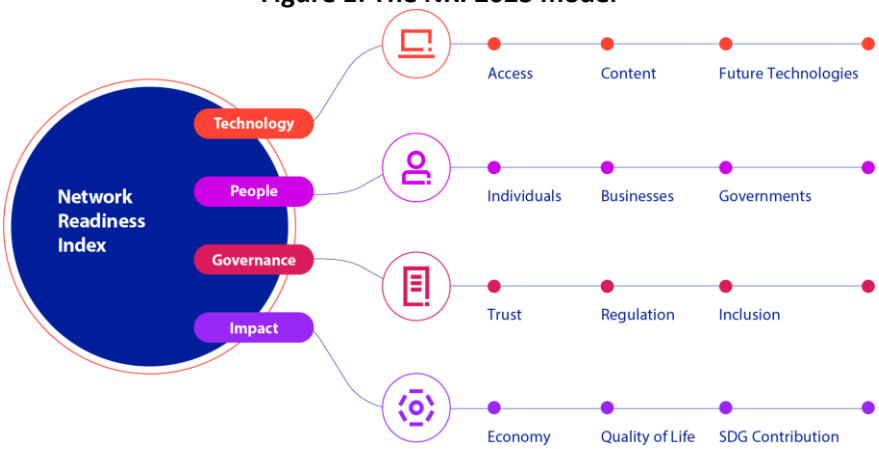
Colombia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

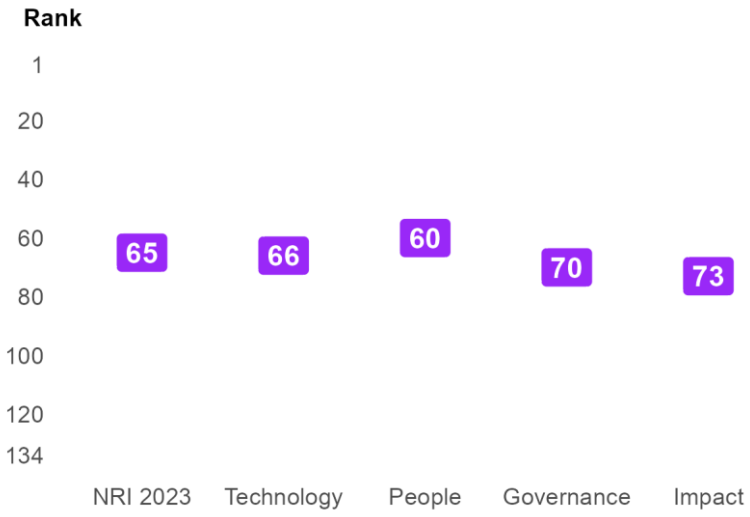
Figure 1: The NRI 2023 model



Global NRI position of Colombia

Colombia ranks 65th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Colombia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Colombia relate to Governments, SDG Contribution and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Trust and Quality of Life sub-pillars.

Table 1: Colombia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	50	Businesses	70
SDG Contribution	54	Inclusion	70
Content	56	Economy	73
Regulation	57	Access	75
Future Technologies	63	Trust	79
Individuals	63	Quality of Life	87

NRI score and income

Figure 3 shows the position of Colombia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Colombia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)

Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Colombia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Colombia is ranked 15th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in seven of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation and SDG Contribution.

The Americas

Colombia is ranked 9th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Governance. With regard to sub-pillars, it outperforms the average in The Americas in eight of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Regulation and Inclusion.

Figure 4: Performance of Colombia against its income group and region, overall and by pillar

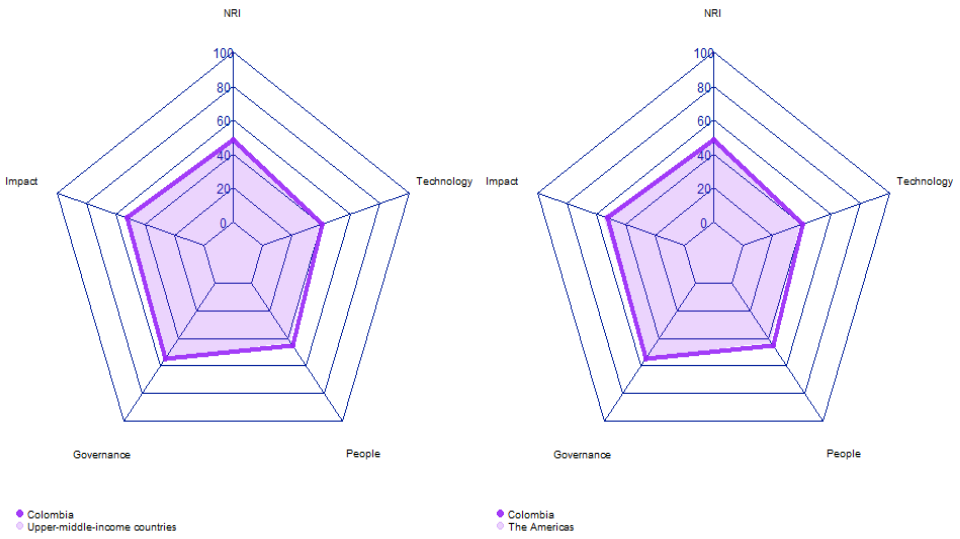


Table 2: Colombia scores vs. averages of its income group and region, overall and by pillar

Dimension	Colombia	Upper-middle-income countries	The Americas
NRI	48.28	47.35	47.41
Technology	40.40	38.48	38.24
People	45.51	42.59	42.35
Governance	54.65	55.90	54.12
Impact	52.55	52.43	54.93

Strongest and weakest indicators

The indicators where Colombia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 3.2.5 Privacy protection by law content, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Colombia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	42
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	59
3.3.4 Gender gap in Internet use	11	3.3.5 Rural gap in use of digital payments	97
4.3.4 SDG 7: Affordable and Clean Energy	12	3.2.5 Privacy protection by law content	98
1.1.5 International Internet bandwidth	14	4.2.3 Income inequality	109
2.3.2 Publication and use of open data	18		
2.2.2 GERD financed by business enterprise	22		
1.1.3 FTTH/building Internet subscriptions	23		
4.1.4 Domestic market size	31		
2.1.1 Mobile broadband internet traffic within the country	33		
4.2.4 Healthy life expectancy at birth	35		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Colombia

Network Readiness Index Rank: 65 (out of 134) Score: 48.28

Pillar/sub-pillar	Rank	Score
A. Technology pillar	66	40.40
1st sub-pillar: Access	75	62.07
2nd sub-pillar: Content	56	25.35
3rd sub-pillar: Future Technologies	63	33.79
B. People pillar	60	45.51
1st sub-pillar: Individuals	63	48.24
2nd sub-pillar: Businesses	70	43.52
3rd sub-pillar: Governments	50	44.78

Pillar/sub-pillar	Rank	Score
C. Governance pillar	70	54.65
1st sub-pillar: Trust	79	36.26
2nd sub-pillar: Regulation	57	67.44
3rd sub-pillar: Inclusion	70	60.24
D. Impact pillar	73	52.55
1st sub-pillar: Economy	73	25.84
2nd sub-pillar: Quality of Life	87	62.05
3rd sub-pillar: SDG Contribution	54	69.76

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	66	40.40	
1st sub-pillar: Access	75	62.07	
1.1.1 Mobile tariffs	87	49.21	
1.1.2 Handset prices	57	53.51	
1.1.3 FTTH/building Internet subscriptions	23	46.63	●
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	14	84.88	●
1.1.6 Internet access in schools	58	38.18	
2nd sub-pillar: Content	56	25.35	
1.2.1 GitHub commits	64	7.49	
1.2.2 Internet domain registrations	38	16.00	
1.2.3 Mobile apps development	73	64.03	
1.2.4 AI scientific publications	37	13.89	
3rd sub-pillar: Future Technologies	63	33.79	
1.3.1 Adoption of emerging technologies	67	46.99	
1.3.2 Investment in emerging technologies	68	38.75	

Indicator	Rank	Score	
C. Governance pillar	70	54.65	
1st sub-pillar: Trust	79	36.26	
3.1.1 Secure Internet servers	78	47.91	
3.1.2 Cybersecurity	88	63.08	
3.1.3 Online access to financial account	86	17.15	
3.1.4 Internet shopping	76	16.89	
2nd sub-pillar: Regulation	57	67.44	
3.2.1 Regulatory quality	57	54.57	
3.2.2 ICT regulatory environment	58	84.71	
3.2.3 Regulation of emerging technologies	55	48.05	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	98	49.88	○
3rd sub-pillar: Inclusion	70	60.24	
3.3.1 E-Participation	37	70.93	
3.3.2 Socioeconomic gap in use of digital payments	95	55.54	
3.3.3 Availability of local online content	78	53.85	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	79	15.63	
B. People pillar	60	45.51	
1st sub-pillar: Individuals	63	48.24	
2.1.1 Mobile broadband internet traffic within the country	33	24.55	●
2.1.2 ICT skills in the education system	39	59.72	
2.1.3 Use of virtual social networks	46	69.70	
2.1.4 Tertiary enrollment	56	36.71	
2.1.5 Adult literacy rate	47	94.04	
2.1.6 AI talent concentration	42	4.72	○
2nd sub-pillar: Businesses	70	43.52	
2.2.1 Firms with website	34	69.30	
2.2.2 GERD financed by business enterprise	22	66.08	●
2.2.3 Knowledge intensive employment	55	34.92	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	56	3.81	
3rd sub-pillar: Governments	50	44.78	
2.3.1 Government online services	59	71.46	
2.3.2 Publication and use of open data	18	64.71	●
2.3.3 Government promotion of investment in emerging tech	65	37.92	
2.3.4 R&D expenditure by governments and higher education	80	5.03	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	11	75.22	●
3.3.5 Rural gap in use of digital payments	97	45.66	○
D. Impact pillar	73	52.55	
1st sub-pillar: Economy	73	25.84	
4.1.1 High-tech and medium-high-tech manufacturing	60	24.82	
4.1.2 High-tech exports	58	14.64	
4.1.3 PCT patent applications	56	4.96	
4.1.4 Domestic market size	31	66.61	●
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	84	8.84	
2nd sub-pillar: Quality of Life	87	62.05	
4.2.1 Happiness	64	65.83	
4.2.2 Freedom to make life choices	72	70.67	
4.2.3 Income inequality	109	28.89	○
4.2.4 Healthy life expectancy at birth	35	82.82	●
3rd sub-pillar: SDG Contribution	54	69.76	
4.3.1 SDG 3: Good Health and Well-Being	37	81.88	
4.3.2 SDG 4: Quality Education	59	29.15	○
4.3.3 SDG 5: Women's economic opportunity	68	77.88	
4.3.4 SDG 7: Affordable and Clean Energy	12	83.60	●
4.3.5 SDG 11: Sustainable Cities and Communities	47	76.31	

NOTE: ● a strength and ○ a weakness.

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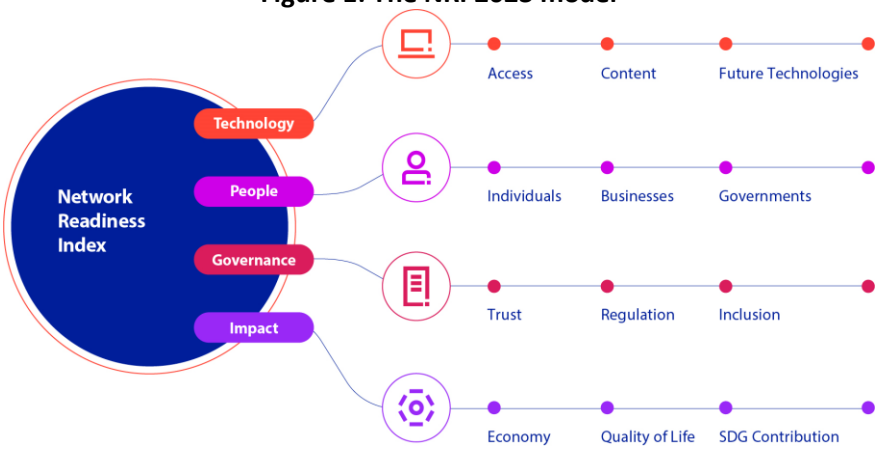
Congo, Dem. Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

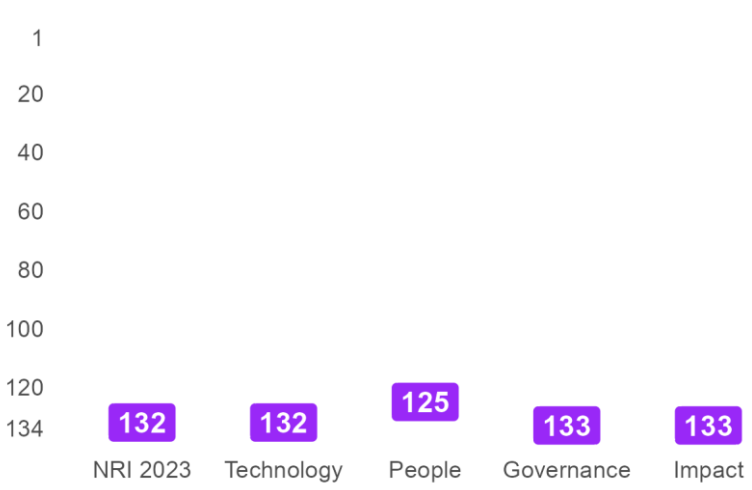
Figure 1: The NRI 2023 model



Global NRI position of Congo, Dem. Rep.

Congo, Dem. Rep. ranks 132nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance and Impact.

Figure 2: Congo, Dem. Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Congo, Dem. Rep. relate to Economy, Businesses and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Trust and SDG Contribution sub-pillars.

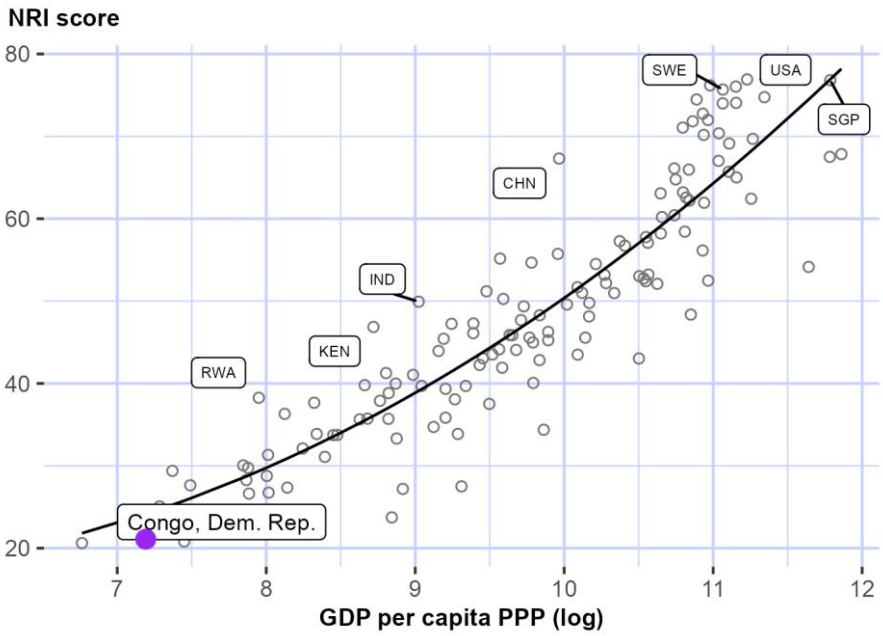
Table 1: Congo, Dem. Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	115	Access	129
Businesses	119	Inclusion	129
Individuals	123	Governments	131
Future Technologies	125	Regulation	131
Quality of Life	126	Trust	132
Content	128	SDG Contribution	134

NRI score and income

Figure 3 shows the position of Congo, Dem. Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Congo, Dem. Rep. is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Congo, Dem. Rep. belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Congo, Dem. Rep. is ranked 10th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in one of the twelve sub-pillars: Individuals.

Africa

Congo, Dem. Rep. is ranked 29th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Congo, Dem. Rep. against its income group and region, overall and by pillar

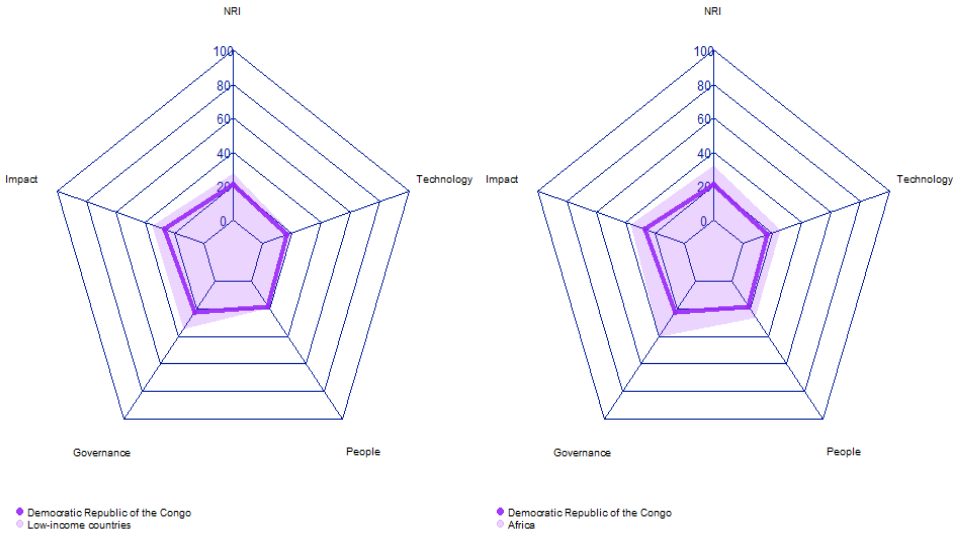


Table 2: Congo, Dem. Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Congo, Dem. Rep.	Low-income countries	Africa
NRI	21.09	27.19	32.14
Technology	16.27	19.75	25.14
People	18.27	19.57	26.19
Governance	22.81	34.61	40.44
Impact	27.00	34.82	36.77

Strongest and weakest indicators

The indicators where Congo, Dem. Rep. performs particularly well include 3.1.3 Online access to financial account, 2.3.4 R&D expenditure by governments and higher education, and 2.2.4 Annual investment in telecommunication services (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 1.2.2 Internet domain registrations, and 3.1.1 Secure Internet servers.

Table 3: Highlight of Strengths and Opportunities for Congo, Dem. Rep.

Strongest indicators	Rank	Weakest indicators	Rank
3.1.3 Online access to financial account	56	1.1.6 Internet access in schools	84
2.3.4 R&D expenditure by governments and higher education	67	1.1.4 Population covered by at least a 3G mobile network	128
2.2.4 Annual investment in telecommunication services	75	4.2.1 Happiness	128
2.1.1 Mobile broadband internet traffic within the country	76	4.3.1 SDG 3: Good Health and Well-Being	128
3.2.5 Privacy protection by law content	76	3.2.4 E-commerce legislation	129
4.1.4 Domestic market size	83	1.1.1 Mobile tariffs	131
1.2.4 AI scientific publications	86	1.2.1 GitHub commits	131
4.3.3 SDG 5: Women's economic opportunity	88	2.1.3 Use of virtual social networks	131
4.2.3 Income inequality	89	2.3.1 Government online services	131
3.2.2 ICT regulatory environment	100	3.1.2 Cybersecurity	131
		3.3.3 Availability of local online content	131
		3.2.1 Regulatory quality	132
		4.1.6 ICT services exports	132
		1.2.2 Internet domain registrations	133
		3.1.1 Secure Internet servers	133
		4.3.4 SDG 7: Affordable and Clean Energy	134

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Congo, Dem. Rep.

Network Readiness Index Rank: 132 (out of 134) Score: 21.09

Pillar/sub-pillar	Rank	Score
A. Technology pillar	132	16.27
1st sub-pillar: Access	129	32.56
2nd sub-pillar: Content	128	0.78
3rd sub-pillar: Future Technologies	125	15.48
B. People pillar	125	18.27
1st sub-pillar: Individuals	123	19.92
2nd sub-pillar: Businesses	119	24.33
3rd sub-pillar: Governments	131	10.55

Pillar/sub-pillar	Rank	Score
C. Governance pillar	133	22.81
1st sub-pillar: Trust	132	12.10
2nd sub-pillar: Regulation	131	29.69
3rd sub-pillar: Inclusion	129	26.65
D. Impact pillar	133	27.00
1st sub-pillar: Economy	115	15.24
2nd sub-pillar: Quality of Life	126	37.40
3rd sub-pillar: SDG Contribution	134	28.38

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	132	16.27	
1st sub-pillar: Access	129	32.56	
1.1.1 Mobile tariffs	131	6.54	○
1.1.2 Handset prices	121	19.19	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	128	75.66	○
1.1.5 International Internet bandwidth	115	61.39	
1.1.6 Internet access in schools	84	0.00	○
2nd sub-pillar: Content	128	0.78	
1.2.1 GitHub commits	131	0.10	○
1.2.2 Internet domain registrations	133	0.02	○
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	86	2.21	
3rd sub-pillar: Future Technologies	125	15.48	
1.3.1 Adoption of emerging technologies	123	13.47	
1.3.2 Investment in emerging technologies	123	17.50	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	133	22.81	
1st sub-pillar: Trust	132	12.10	
3.1.1 Secure Internet servers	133	9.89	○
3.1.2 Cybersecurity	131	3.63	○
3.1.3 Online access to financial account	56	33.51	
3.1.4 Internet shopping	123	1.38	
2nd sub-pillar: Regulation	131	29.69	
3.2.1 Regulatory quality	132	17.46	○
3.2.2 ICT regulatory environment	100	68.24	
3.2.3 Regulation of emerging technologies	118	1.30	
3.2.4 E-commerce legislation	129	0.00	○
3.2.5 Privacy protection by law content	76	61.46	
3rd sub-pillar: Inclusion	129	26.65	
3.3.1 E-Participation	115	23.26	
3.3.2 Socioeconomic gap in use of digital payments	118	39.66	
3.3.3 Availability of local online content	131	10.34	○
3.3.4 Gender gap in Internet use	NA	NA	

Indicator	Rank	Score	
1.3.4 Computer software spending	NA	NA	
B. People pillar	125	18.27	
1st sub-pillar: Individuals	123	19.92	
2.1.1 Mobile broadband internet traffic within the country	76	7.16	
2.1.2 ICT skills in the education system	102	14.68	
2.1.3 Use of virtual social networks	131	2.15	○
2.1.4 Tertiary enrollment	120	2.89	
2.1.5 Adult literacy rate	82	72.72	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	119	24.33	
2.2.1 Firms with website	110	8.66	
2.2.2 GERD financed by business enterprise	99	0.05	
2.2.3 Knowledge intensive employment	106	11.98	
2.2.4 Annual investment in telecommunication services	75	76.61	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	131	10.55	
2.3.1 Government online services	131	15.35	○
2.3.2 Publication and use of open data	86	11.76	
2.3.3 Government promotion of investment in emerging tech	120	7.96	
2.3.4 R&D expenditure by governments and higher education	67	7.14	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	109	33.34	
D. Impact pillar	133	27.00	
1st sub-pillar: Economy	115	15.24	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	121	0.68	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	83	46.80	
4.1.5 Prevalence of gig economy	117	13.37	
4.1.6 ICT services exports	132	0.09	○
2nd sub-pillar: Quality of Life	126	37.40	
4.2.1 Happiness	128	15.90	○
4.2.2 Freedom to make life choices	116	48.19	
4.2.3 Income inequality	89	52.51	
4.2.4 Healthy life expectancy at birth	126	33.00	
3rd sub-pillar: SDG Contribution	134	28.38	
4.3.1 SDG 3: Good Health and Well-Being	128	16.95	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	88	69.91	
4.3.4 SDG 7: Affordable and Clean Energy	134	0.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	124	26.64	

NOTE: ● a strength and ○ a weakness.

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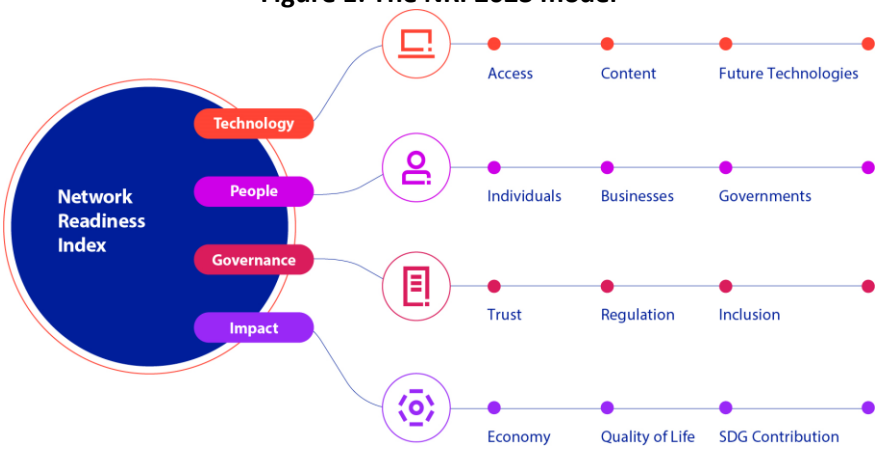
Costa Rica

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

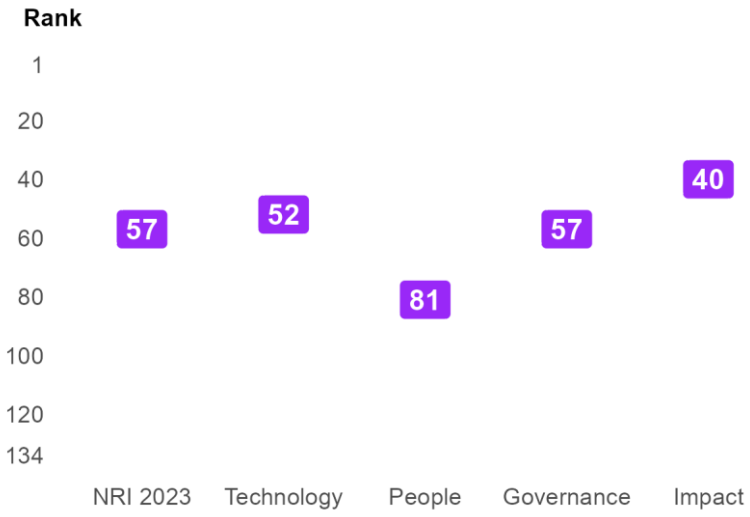
Figure 1: The NRI 2023 model



Global NRI position of Costa Rica

Costa Rica ranks 57th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Costa Rica global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Costa Rica relate to Individuals, Future Technologies and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Governments and Businesses sub-pillars.

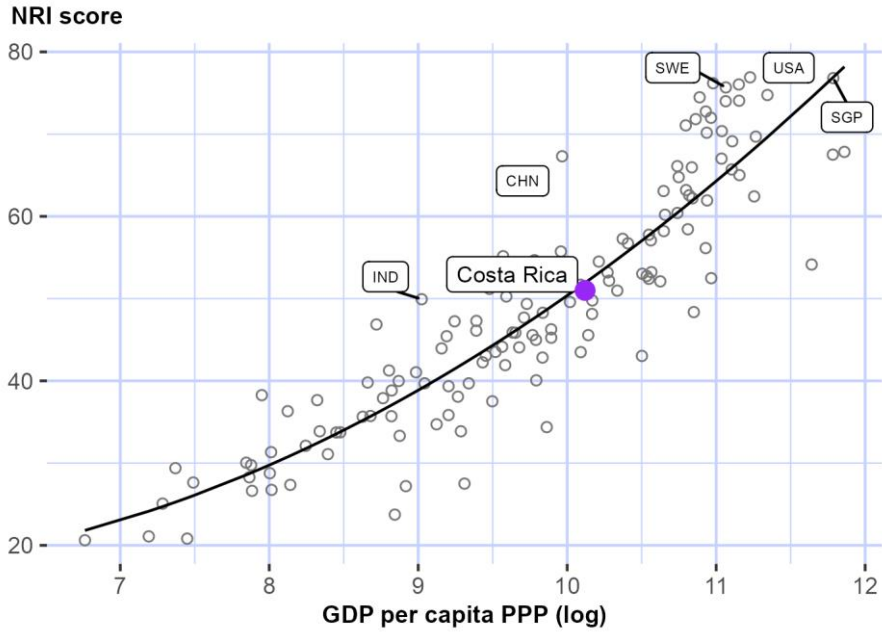
Table 1: Costa Rica rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	30	Access	60
Future Technologies	34	Trust	65
Regulation	35	Inclusion	73
SDG Contribution	40	Content	79
Quality of Life	43	Governments	80
Economy	57	Businesses	113

NRI score and income

Figure 3 shows the position of Costa Rica in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Costa Rica is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Costa Rica belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Costa Rica is ranked 9th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

The Americas

Costa Rica is ranked 6th within The Americas (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in The Americas in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Costa Rica against its income group and region, overall and by pillar

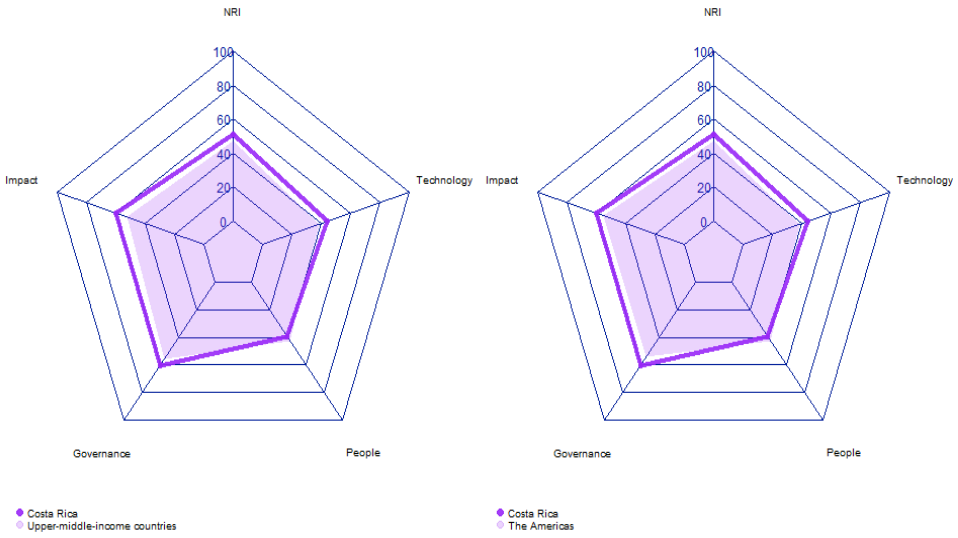


Table 2: Costa Rica scores vs. averages of its income group and region, overall and by pillar

Dimension	Costa Rica	Upper-middle-income countries	The Americas
NRI	50.99	47.35	47.41
Technology	44.22	38.48	38.24
People	39.51	42.59	42.35
Governance	60.30	55.90	54.12
Impact	59.96	52.43	54.93

Strongest and weakest indicators

The indicators where Costa Rica performs particularly well include 3.2.4 E-commerce legislation, 4.2.1 Happiness, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.2.3 Income inequality, 1.2.4 AI scientific publications, and 2.2.2 GERD financed by business enterprise.

Table 3: Highlight of Strengths and Opportunities for Costa Rica

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	56
4.2.1 Happiness	9	4.1.1 High-tech and medium-high-tech manufacturing	81
4.3.4 SDG 7: Affordable and Clean Energy	9	2.2.2 GERD financed by business enterprise	85
4.1.6 ICT services exports	14	1.2.4 AI scientific publications	101
3.3.4 Gender gap in Internet use	20	4.2.3 Income inequality	105
4.2.2 Freedom to make life choices	20		
3.2.2 ICT regulatory environment	28		
4.2.4 Healthy life expectancy at birth	31		
1.3.4 Computer software spending	32		
4.1.2 High-tech exports	33		
4.3.3 SDG 5: Women's economic opportunity	34		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Costa Rica

Network Readiness Index Rank: 57 (out of 134) Score: 50.99

Pillar/sub-pillar	Rank	Score
A. Technology pillar	52	44.22
1st sub-pillar: Access	60	66.96
2nd sub-pillar: Content	79	19.97
3rd sub-pillar: Future Technologies	34	45.72
B. People pillar	81	39.51
1st sub-pillar: Individuals	30	54.91
2nd sub-pillar: Businesses	113	28.76
3rd sub-pillar: Governments	80	34.85

Pillar/sub-pillar	Rank	Score
C. Governance pillar	57	60.30
1st sub-pillar: Trust	65	44.95
2nd sub-pillar: Regulation	35	76.62
3rd sub-pillar: Inclusion	73	59.32
D. Impact pillar	40	59.96
1st sub-pillar: Economy	57	31.51
2nd sub-pillar: Quality of Life	43	74.78
3rd sub-pillar: SDG Contribution	40	73.58

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	52	44.22	
1st sub-pillar: Access	60	66.96	
1.1.1 Mobile tariffs	67	60.90	
1.1.2 Handset prices	53	55.88	
1.1.3 FTTH/building Internet subscriptions	74	25.77	
1.1.4 Population covered by at least a 3G mobile network	98	97.96	
1.1.5 International Internet bandwidth	46	74.98	
1.1.6 Internet access in schools	38	86.29	
2nd sub-pillar: Content	79	19.97	
1.2.1 GitHub commits	51	11.69	
1.2.2 Internet domain registrations	52	6.48	
1.2.3 Mobile apps development	84	60.56	
1.2.4 AI scientific publications	101	1.15	○
3rd sub-pillar: Future Technologies	34	45.72	
1.3.1 Adoption of emerging technologies	43	57.76	
1.3.2 Investment in emerging technologies	48	48.25	

Indicator	Rank	Score	
C. Governance pillar	57	60.30	
1st sub-pillar: Trust	65	44.95	
3.1.1 Secure Internet servers	62	57.29	
3.1.2 Cybersecurity	83	66.88	
3.1.3 Online access to financial account	64	29.47	
3.1.4 Internet shopping	62	26.18	
2nd sub-pillar: Regulation	35	76.62	
3.2.1 Regulatory quality	47	59.91	
3.2.2 ICT regulatory environment	28	90.59	•
3.2.3 Regulation of emerging technologies	43	57.14	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	39	75.44	
3rd sub-pillar: Inclusion	73	59.32	
3.3.1 E-Participation	66	54.65	
3.3.2 Socioeconomic gap in use of digital payments	93	55.92	
3.3.3 Availability of local online content	65	60.34	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	32	31.13	●
B. People pillar		81	39.51	
1st sub-pillar: Individuals		30	54.91	
2.1.1	Mobile broadband internet traffic within the country	84	5.19	
2.1.2	ICT skills in the education system	35	65.53	
2.1.3	Use of virtual social networks	48	69.40	
2.1.4	Tertiary enrollment	55	37.09	
2.1.5	Adult literacy rate	31	97.32	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		113	28.76	
2.2.1	Firms with website	NA	NA	
2.2.2	GERD financed by business enterprise	85	2.85	○
2.2.3	Knowledge intensive employment	69	30.35	
2.2.4	Annual investment in telecommunication services	63	78.18	
2.2.5	GERD performed by business enterprise	57	3.68	
3rd sub-pillar: Governments		80	34.85	
2.3.1	Government online services	70	64.77	
2.3.2	Publication and use of open data	49	33.82	
2.3.3	Government promotion of investment in emerging tech	74	34.29	
2.3.4	R&D expenditure by governments and higher education	69	6.51	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	20	73.15	●
3.3.5	Rural gap in use of digital payments	87	52.52	
D. Impact pillar		40	59.96	
1st sub-pillar: Economy		57	31.51	
4.1.1	High-tech and medium-high-tech manufacturing	81	14.48	○
4.1.2	High-tech exports	33	28.20	●
4.1.3	PCT patent applications	83	0.95	
4.1.4	Domestic market size	82	46.91	
4.1.5	Prevalence of gig economy	52	45.64	
4.1.6	ICT services exports	14	52.89	●
2nd sub-pillar: Quality of Life		43	74.78	
4.2.1	Happiness	9	87.87	●
4.2.2	Freedom to make life choices	20	89.12	●
4.2.3	Income inequality	105	35.93	○
4.2.4	Healthy life expectancy at birth	31	86.20	●
3rd sub-pillar: SDG Contribution		40	73.58	
4.3.1	SDG 3: Good Health and Well-Being	38	81.78	
4.3.2	SDG 4: Quality Education	56	32.95	○
4.3.3	SDG 5: Women's economic opportunity	34	88.50	●
4.3.4	SDG 7: Affordable and Clean Energy	9	84.83	●
4.3.5	SDG 11: Sustainable Cities and Communities	37	79.86	

NOTE: ● a strength and ○ a weakness.

Sources

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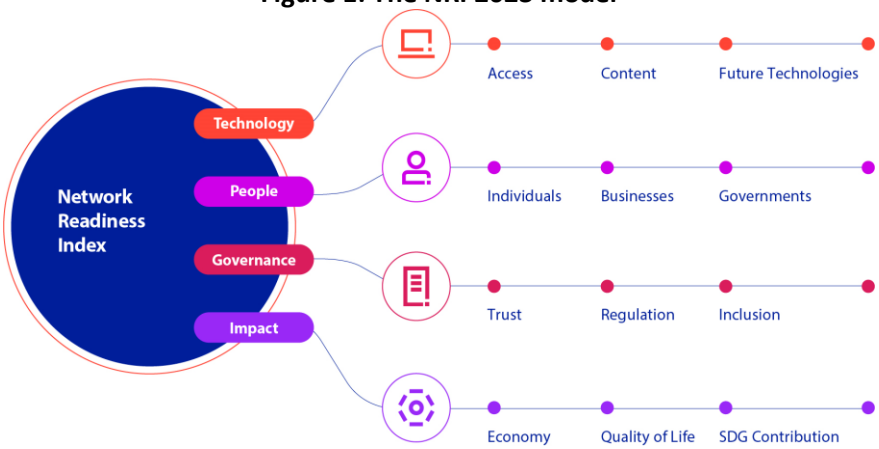
Cote d'Ivoire

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

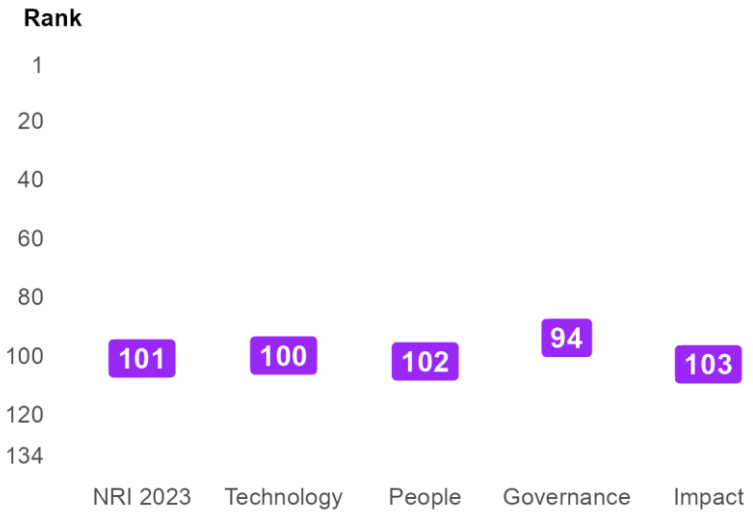
Figure 1: The NRI 2023 model



Global NRI position of Cote d'Ivoire

Cote d'Ivoire ranks 101st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Cote d'Ivoire global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cote d'Ivoire relate to Regulation, Economy and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Quality of Life and Content sub-pillars.

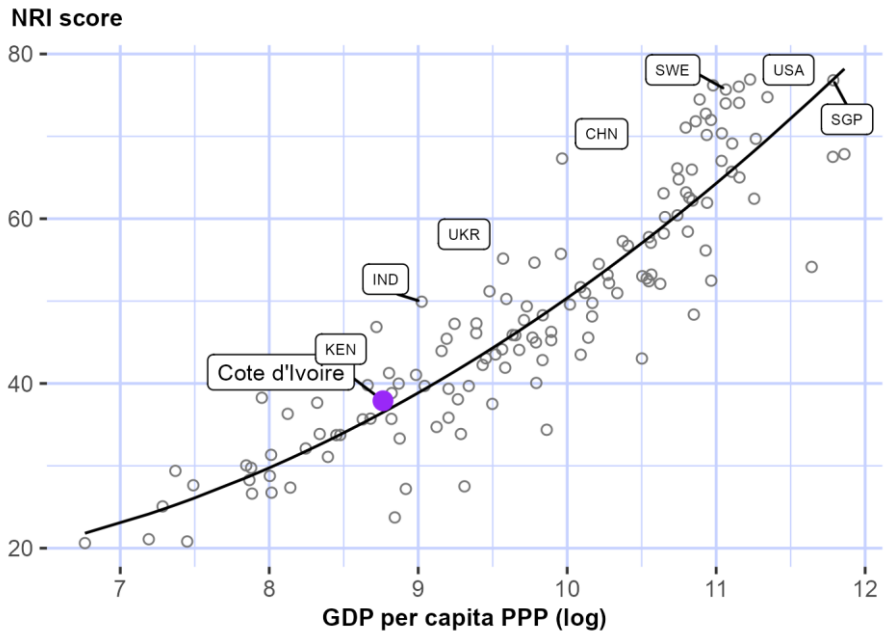
Table 1: Cote d'Ivoire rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	73	Governments	102
Economy	80	Inclusion	102
Access	88	Future Technologies	103
SDG Contribution	93	Businesses	103
Trust	95	Quality of Life	108
Individuals	99	Content	117

NRI score and income

Figure 3 shows the position of Cote d'Ivoire in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cote d'Ivoire is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Cote d'Ivoire belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Cote d'Ivoire is ranked 21st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Governance. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Access, Trust, Regulation, Economy and SDG Contribution.

Africa

Cote d'Ivoire is ranked 7th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Cote d'Ivoire against its income group and region, overall and by pillar

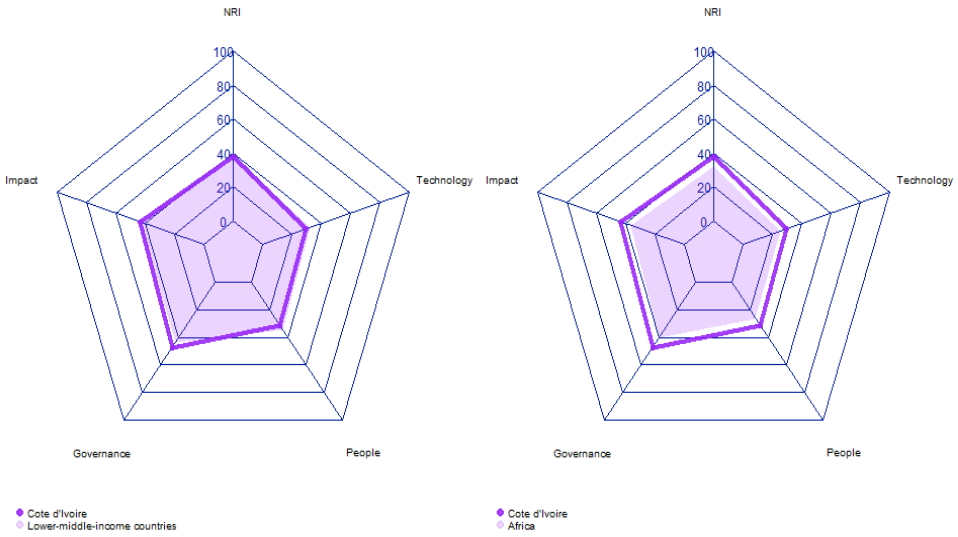


Table 2: Cote d'Ivoire scores vs. averages of its income group and region, overall and by pillar

Dimension	Cote d'Ivoire	Lower-middle-income countries	Africa
NRI	37.89	38.41	32.14
Technology	29.40	32.12	25.14
People	31.67	34.38	26.19
Governance	47.29	43.27	40.44
Impact	43.21	43.89	36.77

Strongest and weakest indicators

The indicators where Cote d'Ivoire performs particularly well include 3.2.4 E-commerce legislation, 4.3.3 SDG 5: Women's economic opportunity, and 2.1.2 ICT skills in the education system (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 1.3.4 Computer software spending, and 1.2.3 Mobile apps development.

Table 3: Highlight of Strengths and Opportunities for Cote d'Ivoire

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	108
4.3.3 SDG 5: Women's economic opportunity	25	2.2.1 Firms with website	109
2.1.2 ICT skills in the education system	26	1.2.3 Mobile apps development	114
4.1.2 High-tech exports	45	1.3.4 Computer software spending	121
4.3.4 SDG 7: Affordable and Clean Energy	54	4.3.5 SDG 11: Sustainable Cities and Communities	128
3.2.3 Regulation of emerging technologies	56		
2.3.3 Government promotion of investment in emerging technologies	58		
2.1.1 Mobile broadband internet traffic within the country	60		
2.2.4 Annual investment in telecommunication services	64		
4.1.5 Prevalence of gig economy	64		
3.3.2 Socioeconomic gap in use of digital payments	67		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Cote d'Ivoire

Network Readiness Index Rank: 101 (out of 134) Score: 37.89

Pillar/sub-pillar	Rank	Score
A. Technology pillar	100	29.40
1st sub-pillar: Access	88	55.78
2nd sub-pillar: Content	117	10.07
3rd sub-pillar: Future Technologies	103	22.36
B. People pillar	102	31.67
1st sub-pillar: Individuals	99	37.33
2nd sub-pillar: Businesses	103	31.70
3rd sub-pillar: Governments	102	25.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	94	47.29
1st sub-pillar: Trust	95	32.34
2nd sub-pillar: Regulation	73	63.35
3rd sub-pillar: Inclusion	102	46.18
D. Impact pillar	103	43.21
1st sub-pillar: Economy	80	23.71
2nd sub-pillar: Quality of Life	108	50.76
3rd sub-pillar: SDG Contribution	93	55.17

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	100	29.40	
1st sub-pillar: Access	88	55.78	
1.1.1 Mobile tariffs	102	37.33	
1.1.2 Handset prices	72	44.13	
1.1.3 FTTH/building Internet subscriptions	65	29.08	
1.1.4 Population covered by at least a 3G mobile network	81	99.07	
1.1.5 International Internet bandwidth	77	69.28	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	117	10.07	
1.2.1 GitHub commits	123	0.43	
1.2.2 Internet domain registrations	112	0.39	
1.2.3 Mobile apps development	114	38.49	○
1.2.4 AI scientific publications	105	0.98	
3rd sub-pillar: Future Technologies	103	22.36	
1.3.1 Adoption of emerging technologies	89	37.49	
1.3.2 Investment in emerging technologies	101	28.50	

Indicator	Rank	Score	
C. Governance pillar	94	47.29	
1st sub-pillar: Trust	95	32.34	
3.1.1 Secure Internet servers	112	32.04	
3.1.2 Cybersecurity	82	67.25	
3.1.3 Online access to financial account	73	23.87	
3.1.4 Internet shopping	104	6.21	
2nd sub-pillar: Regulation	73	63.35	
3.2.1 Regulatory quality	84	43.81	
3.2.2 ICT regulatory environment	90	70.59	
3.2.3 Regulation of emerging technologies	56	47.01	•
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	87	55.35	
3rd sub-pillar: Inclusion	102	46.18	
3.3.1 E-Participation	90	36.05	
3.3.2 Socioeconomic gap in use of digital payments	67	74.56	•
3.3.3 Availability of local online content	110	33.17	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	121	1.10	○
B. People pillar	102	31.67	
1st sub-pillar: Individuals	99	37.33	
2.1.1 Mobile broadband internet traffic within the country	60	10.31	●
2.1.2 ICT skills in the education system	26	70.42	●
2.1.3 Use of virtual social networks	110	14.86	
2.1.4 Tertiary enrollment	114	4.85	
2.1.5 Adult literacy rate	65	86.20	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	103	31.70	
2.2.1 Firms with website	109	9.94	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	115	7.08	
2.2.4 Annual investment in telecommunication services	64	78.10	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	102	25.96	
2.3.1 Government online services	90	49.90	
2.3.2 Publication and use of open data	82	13.24	
2.3.3 Government promotion of investment in emerging tech	58	39.64	●
2.3.4 R&D expenditure by governments and higher education	108	1.09	○

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	99	29.87	
3.3.5 Rural gap in use of digital payments	76	57.24	
D. Impact pillar	103	43.21	
1st sub-pillar: Economy	80	23.71	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	45	20.13	●
4.1.3 PCT patent applications	94	0.23	
4.1.4 Domestic market size	73	50.24	
4.1.5 Prevalence of gig economy	64	40.99	●
4.1.6 ICT services exports	91	6.98	
2nd sub-pillar: Quality of Life	108	50.76	
4.2.1 Happiness	94	46.43	
4.2.2 Freedom to make life choices	104	56.39	
4.2.3 Income inequality	62	64.82	
4.2.4 Healthy life expectancy at birth	121	35.38	
3rd sub-pillar: SDG Contribution	93	55.17	
4.3.1 SDG 3: Good Health and Well-Being	118	28.21	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	25	92.92	●
4.3.4 SDG 7: Affordable and Clean Energy	54	75.07	●
4.3.5 SDG 11: Sustainable Cities and Communities	128	24.48	○

NOTE: ● a strength and ○ a weakness.

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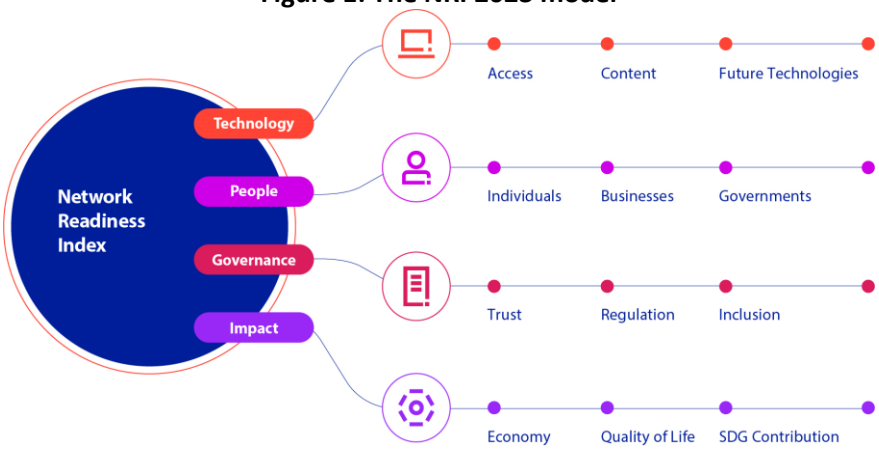
Croatia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

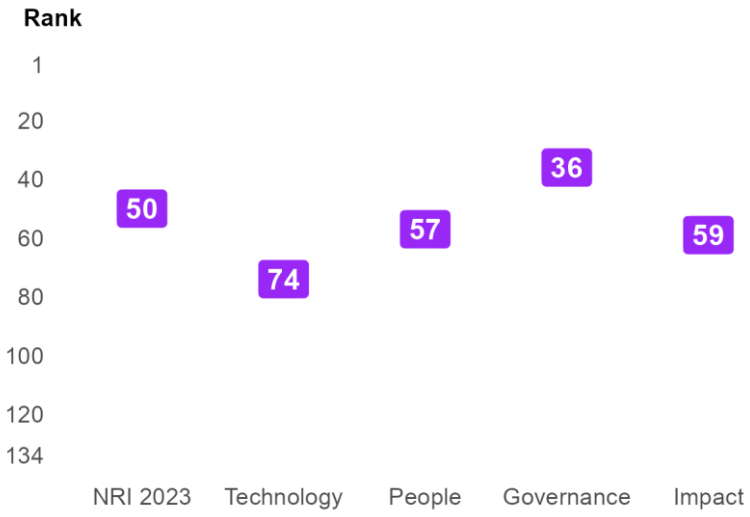
Figure 1: The NRI 2023 model



Global NRI position of Croatia

Croatia ranks 50th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Croatia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Croatia relate to Trust, Regulation and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Quality of Life and Future Technologies sub-pillars.

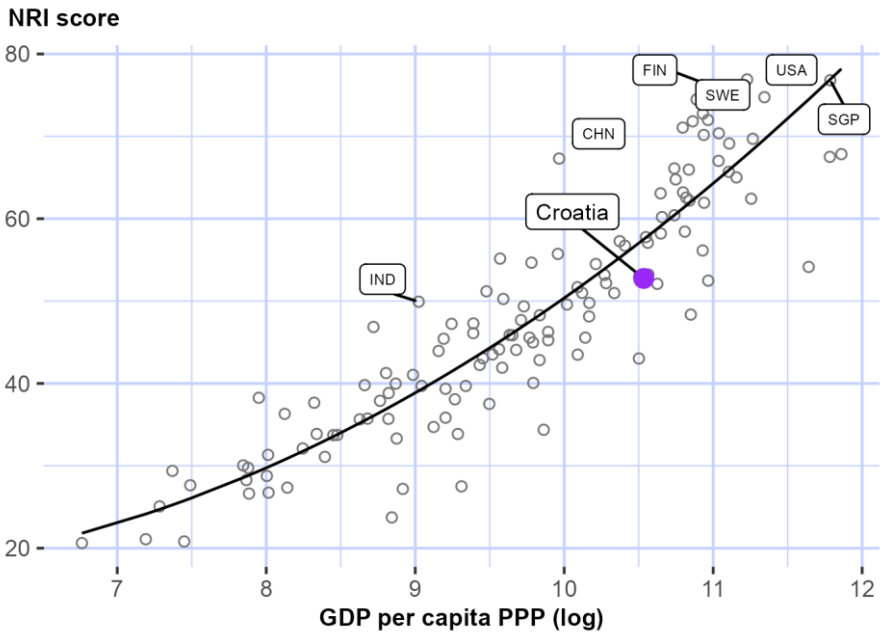
Table 1: Croatia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	39	Access	57
Regulation	39	Individuals	61
SDG Contribution	41	Governments	70
Inclusion	42	Economy	74
Businesses	47	Quality of Life	79
Content	49	Future Technologies	110

NRI score and income

Figure 3 shows the position of Croatia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Croatia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Croatia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Croatia is ranked 43rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

Europe

Croatia is ranked 32nd within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Croatia against its income group and region, overall and by pillar

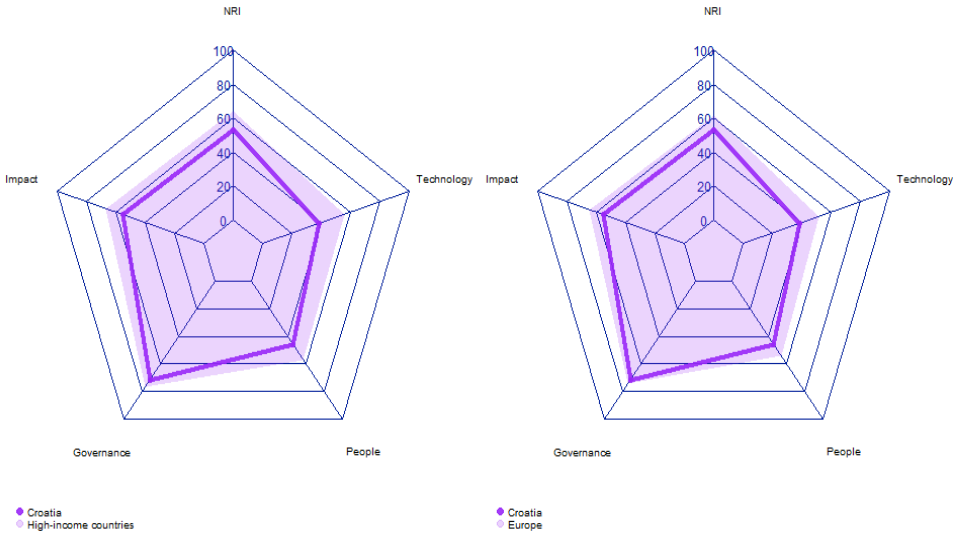


Table 2: Croatia scores vs. averages of its income group and region, overall and by pillar

Dimension	Croatia	High-income countries	Europe
NRI	52.75	64.07	61.25
Technology	38.80	55.76	51.90
People	45.98	56.99	54.16
Governance	71.50	76.81	74.33
Impact	54.71	66.73	64.61

Strongest and weakest indicators

The indicators where Croatia performs particularly well include 3.2.4 E-commerce legislation, 3.3.5 Rural gap in use of digital payments, and 3.2.2 ICT regulatory environment (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.3.2 Investment in emerging technologies, 1.3.4 Computer software spending, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Croatia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.5 Prevalence of gig economy	104
3.3.5 Rural gap in use of digital payments	5	1.3.4 Computer software spending	107
3.2.2 ICT regulatory environment	14	2.3.3 Government promotion of investment in emerging technologies	107
2.1.5 Adult literacy rate	15	1.3.2 Investment in emerging technologies	109
4.2.3 Income inequality	20	4.2.2 Freedom to make life choices	122
3.3.1 E-Participation	29		
4.3.3 SDG 5: Women's economic opportunity	29		
1.1.1 Mobile tariffs	30		
3.1.1 Secure Internet servers	30		
1.1.2 Handset prices	34		
4.1.6 ICT services exports	34		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Croatia

Network Readiness Index — Rank: 50 (out of 134) — Score: 52.75

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	74	38.80	C. Governance pillar	36	71.50
1st sub-pillar: Access	57	67.37	1st sub-pillar: Trust	39	66.65
2nd sub-pillar: Content	49	28.93	2nd sub-pillar: Regulation	39	75.56
3rd sub-pillar: Future Technologies	110	20.10	3rd sub-pillar: Inclusion	42	72.30
B. People pillar	57	45.98	D. Impact pillar	59	54.71
1st sub-pillar: Individuals	61	48.52	1st sub-pillar: Economy	74	25.73
2nd sub-pillar: Businesses	47	52.22	2nd sub-pillar: Quality of Life	79	65.57
3rd sub-pillar: Governments	70	37.21	3rd sub-pillar: SDG Contribution	41	72.84

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	74	38.80		**C. Governance pillar**	36	71.50	
1st sub-pillar: Access	57	67.37		*1st sub-pillar: Trust*	39	66.65	
1.1.1 Mobile tariffs	30	78.93	•	3.1.1 Secure Internet servers	30	79.91	•
1.1.2 Handset prices	34	68.98	•	3.1.2 Cybersecurity	40	92.40	
1.1.3 FTTH/building Internet subscriptions	94	16.94		3.1.3 Online access to financial account	39	43.89	
1.1.4 Population covered by at least a 3G mobile network	36	99.96		3.1.4 Internet shopping	43	50.39	
1.1.5 International Internet bandwidth	61	72.03		*2nd sub-pillar: Regulation*	39	75.56	
1.1.6 Internet access in schools	NA	NA		3.2.1 Regulatory quality	45	60.94	
2nd sub-pillar: Content	49	28.93		3.2.2 ICT regulatory environment	14	94.12	•
1.2.1 GitHub commits	39	24.86		3.2.3 Regulation of emerging technologies	69	43.12	
1.2.2 Internet domain registrations	39	15.28		3.2.4 E-commerce legislation	1	100.00	•
1.2.3 Mobile apps development	53	70.79		3.2.5 Privacy protection by law content	35	79.61	
1.2.4 AI scientific publications	71	4.81		*3rd sub-pillar: Inclusion*	42	72.30	
3rd sub-pillar: Future Technologies	110	20.10		3.3.1 E-Participation	29	73.25	•
1.3.1 Adoption of emerging technologies	57	49.87		3.3.2 Socioeconomic gap in use of digital payments	63	77.08	
1.3.2 Investment in emerging technologies	109	25.25	○	3.3.3 Availability of local online content	56	65.87	

Indicator	Rank	Score	
1.3.3 Robot density	46	1.76	
1.3.4 Computer software spending	107	3.54	○
B. People pillar	57	45.98	
1st sub-pillar: Individuals	61	48.52	
2.1.1 Mobile broadband internet traffic within the country	52	13.03	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	53	68.82	
2.1.4 Tertiary enrollment	43	44.13	
2.1.5 Adult literacy rate	15	99.25	●
2.1.6 AI talent concentration	25	17.38	
2nd sub-pillar: Businesses	47	52.22	
2.2.1 Firms with website	40	67.33	
2.2.2 GERD financed by business enterprise	49	46.51	
2.2.3 Knowledge intensive employment	40	52.92	
2.2.4 Annual investment in telecommunication services	52	79.47	
2.2.5 GERD performed by business enterprise	36	14.85	
3rd sub-pillar: Governments	70	37.21	
2.3.1 Government online services	36	79.09	
2.3.2 Publication and use of open data	57	29.41	
2.3.3 Government promotion of investment in emerging tech	107	18.17	○
2.3.4 R&D expenditure by governments and higher education	33	22.17	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	75	64.85	
3.3.5 Rural gap in use of digital payments	5	80.46	●
D. Impact pillar	59	54.71	
1st sub-pillar: Economy	74	25.73	
4.1.1 High-tech and medium-high-tech manufacturing	47	31.80	
4.1.2 High-tech exports	50	17.10	
4.1.3 PCT patent applications	55	4.99	
4.1.4 Domestic market size	78	48.37	
4.1.5 Prevalence of gig economy	104	23.55	○
4.1.6 ICT services exports	34	28.59	●
2nd sub-pillar: Quality of Life	79	65.57	
4.2.1 Happiness	78	60.01	
4.2.2 Freedom to make life choices	122	36.44	○
4.2.3 Income inequality	20	84.17	●
4.2.4 Healthy life expectancy at birth	39	81.67	
3rd sub-pillar: SDG Contribution	41	72.84	
4.3.1 SDG 3: Good Health and Well-Being	56	73.09	
4.3.2 SDG 4: Quality Education	36	56.24	
4.3.3 SDG 5: Women's economic opportunity	29	91.15	●
4.3.4 SDG 7: Affordable and Clean Energy	39	77.17	
4.3.5 SDG 11: Sustainable Cities and Communities	66	66.54	

NOTE: ● a strength and ○ a weakness.

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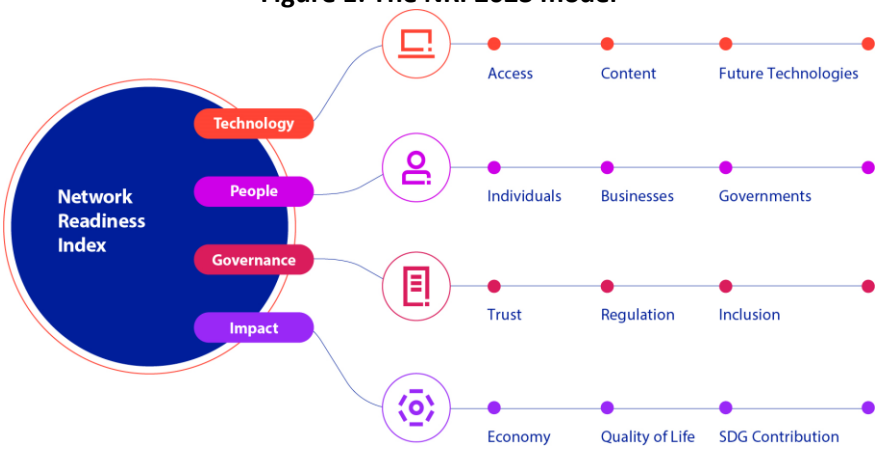
Cyprus

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

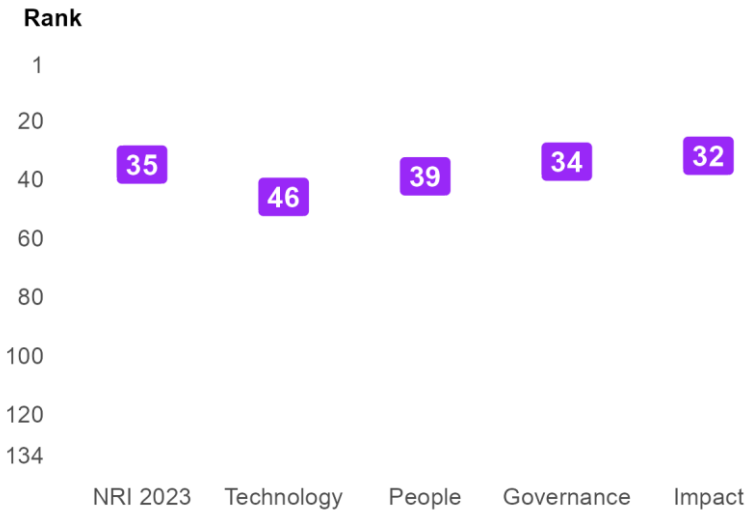
Figure 1: The NRI 2023 model



Global NRI position of Cyprus

Cyprus ranks 35th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Cyprus global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Cyprus relate to Individuals, Content and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Future Technologies sub-pillars.

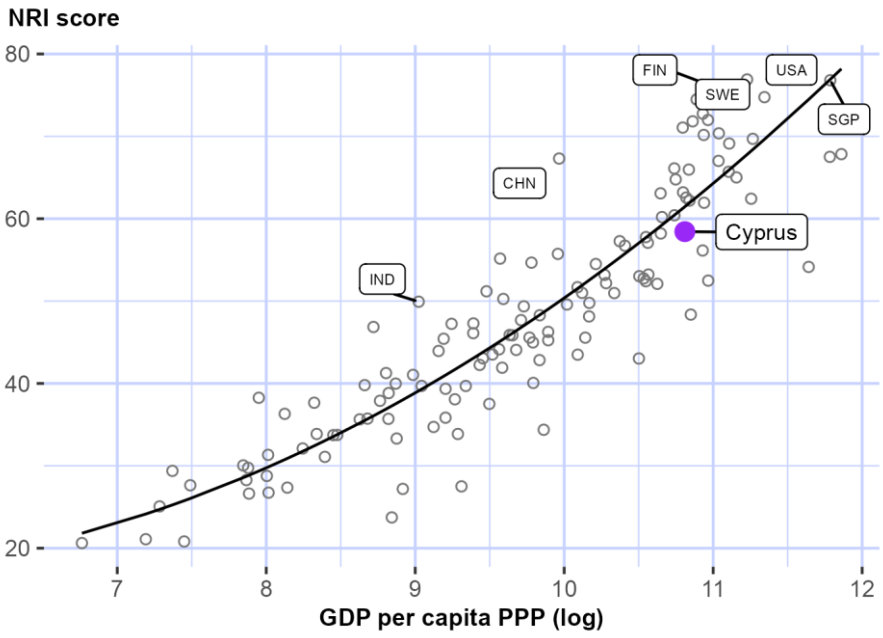
Table 1: Cyprus rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	15	Trust	41
Content	26	Businesses	48
Economy	26	Quality of Life	50
SDG Contribution	30	Governments	63
Inclusion	33	Access	64
Regulation	38	Future Technologies	74

NRI score and income

Figure 3 shows the position of Cyprus in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Cyprus is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Cyprus belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Cyprus is ranked 34th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Content and Individuals.

Europe

Cyprus is ranked 25th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in five of the twelve sub-pillars: Content, Individuals, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of Cyprus against its income group and region, overall and by pillar

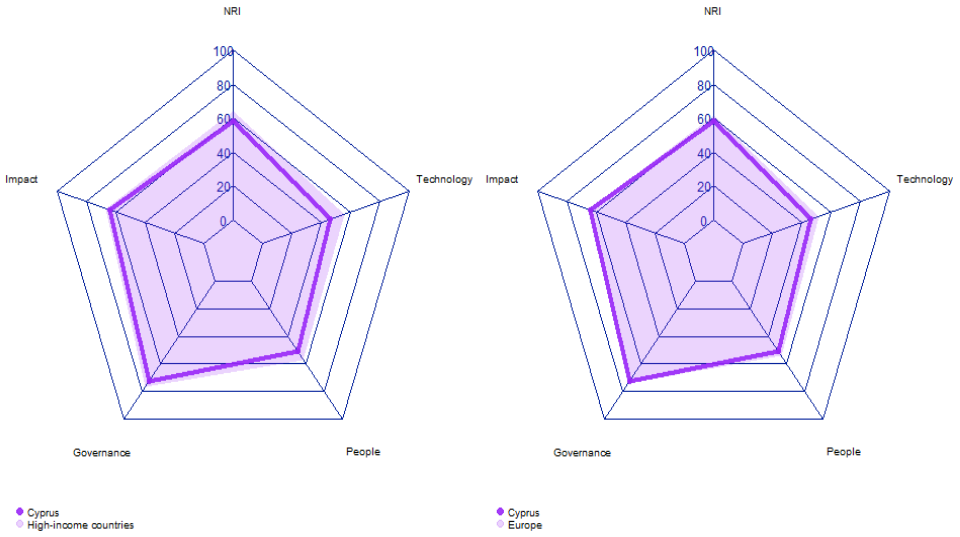


Table 2: Cyprus scores vs. averages of its income group and region, overall and by pillar

Dimension	Cyprus	High-income countries	Europe
NRI	58.43	64.07	61.25
Technology	46.26	55.76	51.90
People	50.84	56.99	54.16
Governance	72.50	76.81	74.33
Impact	64.13	66.73	64.61

Strongest and weakest indicators

The indicators where Cyprus performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.2.3 Mobile apps development, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 4.2.2 Freedom to make life choices, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Cyprus

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.4 Annual investment in telecommunication services	95
1.2.3 Mobile apps development	1	2.1.1 Mobile broadband internet traffic within the country	106
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	109
4.1.6 ICT services exports	1	4.2.2 Freedom to make life choices	110
4.2.4 Healthy life expectancy at birth	5	4.1.4 Domestic market size	114
3.3.4 Gender gap in Internet use	8		
2.1.3 Use of virtual social networks	10		
2.1.4 Tertiary enrollment	10		
1.1.2 Handset prices	15		
2.1.5 Adult literacy rate	17		
4.3.5 SDG 11: Sustainable Cities and Communities	21		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Cyprus

Network Readiness Index Rank: 35 (out of 134) Score: 58.43

Pillar/sub-pillar	Rank	Score
A. Technology pillar	46	46.26
1st sub-pillar: Access	64	65.22
2nd sub-pillar: Content	26	43.65
3rd sub-pillar: Future Technologies	74	29.90
B. People pillar	39	50.84
1st sub-pillar: Individuals	15	59.93
2nd sub-pillar: Businesses	48	52.13
3rd sub-pillar: Governments	63	40.47

Pillar/sub-pillar	Rank	Score
C. Governance pillar	34	72.50
1st sub-pillar: Trust	41	66.15
2nd sub-pillar: Regulation	38	75.95
3rd sub-pillar: Inclusion	33	75.39
D. Impact pillar	32	64.13
1st sub-pillar: Economy	26	42.08
2nd sub-pillar: Quality of Life	50	73.06
3rd sub-pillar: SDG Contribution	30	77.25

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	46	46.26	
1st sub-pillar: Access	64	65.22	
1.1.1 Mobile tariffs	66	61.24	
1.1.2 Handset prices	15	79.75	●
1.1.3 FTTH/building Internet subscriptions	109	9.12	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	41	76.01	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	26	43.65	
1.2.1 GitHub commits	33	32.77	
1.2.2 Internet domain registrations	22	39.63	
1.2.3 Mobile apps development	1	100.00	●
1.2.4 AI scientific publications	85	2.21	
3rd sub-pillar: Future Technologies	74	29.90	
1.3.1 Adoption of emerging technologies	73	44.07	
1.3.2 Investment in emerging technologies	93	31.25	

Indicator	Rank	Score	
C. Governance pillar	34	72.50	
1st sub-pillar: Trust	41	66.15	
3.1.1 Secure Internet servers	27	80.61	
3.1.2 Cybersecurity	49	88.62	
3.1.3 Online access to financial account	43	42.11	
3.1.4 Internet shopping	41	53.27	
2nd sub-pillar: Regulation	38	75.95	
3.2.1 Regulatory quality	34	69.01	
3.2.2 ICT regulatory environment	56	85.53	
3.2.3 Regulation of emerging technologies	60	45.45	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	34	79.77	
3rd sub-pillar: Inclusion	33	75.39	
3.3.1 E-Participation	25	74.42	
3.3.2 Socioeconomic gap in use of digital payments	50	83.94	
3.3.3 Availability of local online content	44	72.36	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	81	14.40	
B. People pillar		39	50.84	
1st sub-pillar: Individuals		15	59.93	
2.1.1	Mobile broadband internet traffic within the country	106	1.46	○
2.1.2	ICT skills in the education system	52	55.18	
2.1.3	Use of virtual social networks	10	82.99	●
2.1.4	Tertiary enrollment	10	60.89	●
2.1.5	Adult literacy rate	17	99.13	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		48	52.13	
2.2.1	Firms with website	30	71.63	
2.2.2	GERD financed by business enterprise	46	47.01	
2.2.3	Knowledge intensive employment	32	58.08	
2.2.4	Annual investment in telecommunication services	95	73.47	○
2.2.5	GERD performed by business enterprise	43	10.49	
3rd sub-pillar: Governments		63	40.47	
2.3.1	Government online services	46	75.60	
2.3.2	Publication and use of open data	NA	NA	
2.3.3	Government promotion of investment in emerging tech	88	30.30	
2.3.4	R&D expenditure by governments and higher education	45	15.50	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	8	76.22	●
3.3.5	Rural gap in use of digital payments	50	70.01	
D. Impact pillar		32	64.13	
1st sub-pillar: Economy		26	42.08	
4.1.1	High-tech and medium-high-tech manufacturing	67	20.67	
4.1.2	High-tech exports	31	28.71	
4.1.3	PCT patent applications	23	33.36	
4.1.4	Domestic market size	114	36.00	○
4.1.5	Prevalence of gig economy	86	33.72	
4.1.6	ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life		50	73.06	
4.2.1	Happiness	67	65.33	
4.2.2	Freedom to make life choices	110	53.90	○
4.2.3	Income inequality	29	78.64	
4.2.4	Healthy life expectancy at birth	5	94.37	●
3rd sub-pillar: SDG Contribution		30	77.25	
4.3.1	SDG 3: Good Health and Well-Being	33	82.64	
4.3.2	SDG 4: Quality Education	44	42.42	
4.3.3	SDG 5: Women's economic opportunity	27	92.04	
4.3.4	SDG 7: Affordable and Clean Energy	27	79.91	
4.3.5	SDG 11: Sustainable Cities and Communities	21	89.25	●

NOTE: ● a strength and ○ a weakness.

Sources

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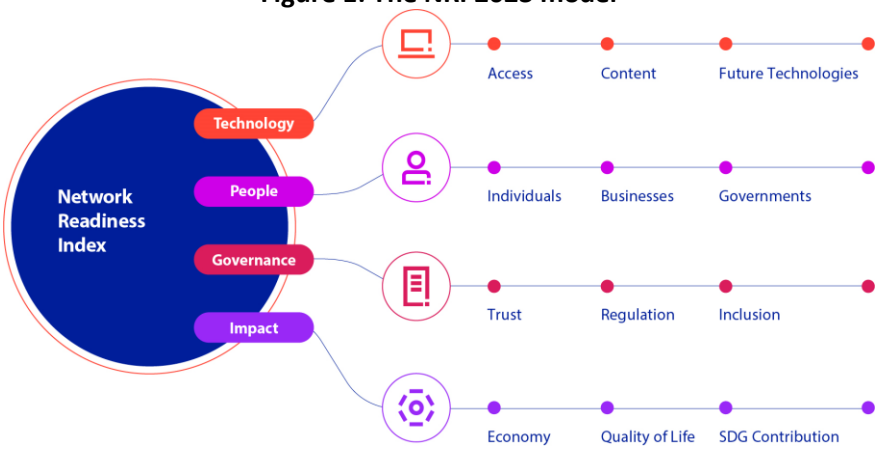
Czech Republic

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

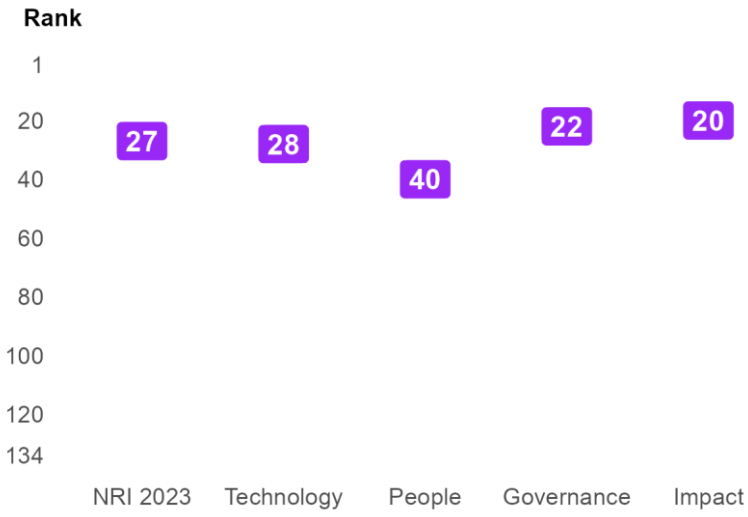
Figure 1: The NRI 2023 model



Global NRI position of Czech Republic

Czech Republic ranks 27th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Czech Republic global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Czech Republic relate to Quality of Life, Trust and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Individuals sub-pillars.

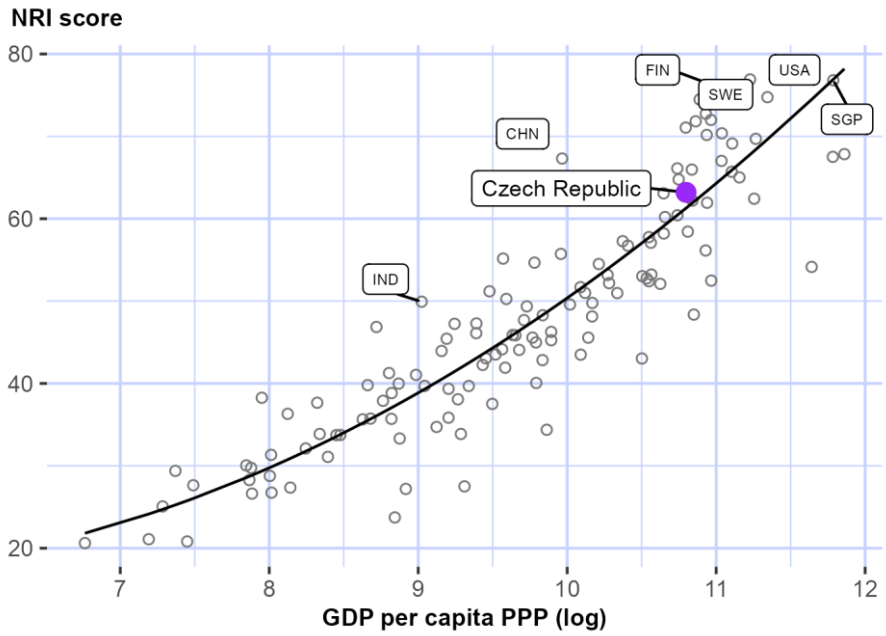
Table 1: Czech Republic rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	9	SDG Contribution	31
Trust	15	Future Technologies	32
Content	21	Inclusion	36
Regulation	21	Governments	39
Economy	24	Access	55
Businesses	30	Individuals	87

NRI score and income

Figure 3 shows the position of Czech Republic in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Czech Republic is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Czech Republic belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Czech Republic is ranked 26th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: Governance and Impact. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Content, Trust, Regulation, Economy and Quality of Life.

Europe

Czech Republic is ranked 18th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in Europe in nine of the twelve sub-pillars: Content, Future Technologies, Businesses, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Czech Republic against its income group and region, overall and by pillar

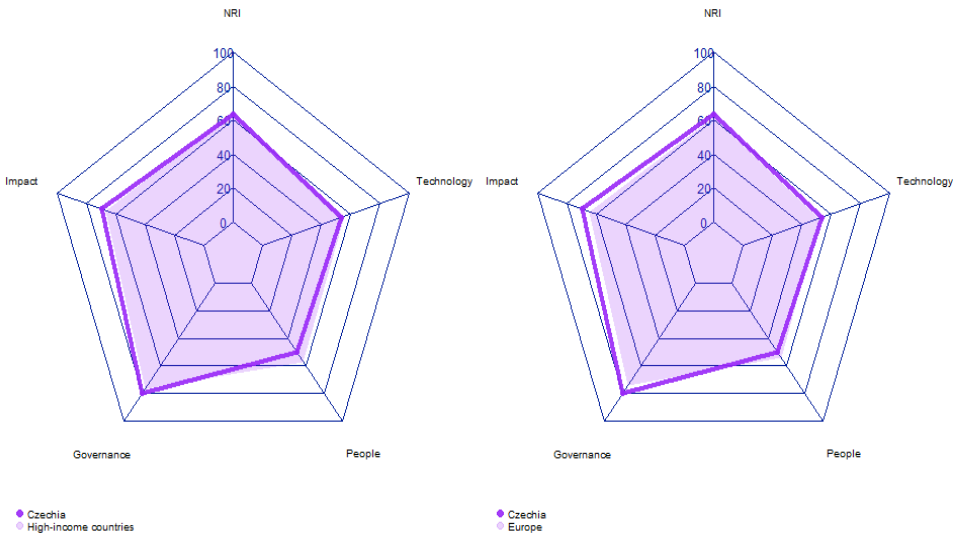


Table 2: Czech Republic scores vs. averages of its income group and region, overall and by pillar

Dimension	Czech Republic	High-income countries	Europe
NRI	63.20	64.07	61.25
Technology	53.39	55.76	51.90
People	50.37	56.99	54.16
Governance	79.76	76.81	74.33
Impact	69.27	66.73	64.61

Strongest and weakest indicators

The indicators where Czech Republic performs particularly well include 3.2.4 E-commerce legislation, 4.1.1 High-tech and medium-high-tech manufacturing, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 1.1.5 International Internet bandwidth, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Highlight of Strengths and Opportunities for Czech Republic

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.1.2 Cybersecurity	76
4.1.1 High-tech and medium-high-tech manufacturing	4	4.3.4 SDG 7: Affordable and Clean Energy	77
4.2.3 Income inequality	9	1.1.5 International Internet bandwidth	78
3.1.4 Internet shopping	10	3.3.4 Gender gap in Internet use	80
3.1.1 Secure Internet servers	12		
3.1.3 Online access to financial account	12		
2.2.1 Firms with website	13		
3.3.2 Socioeconomic gap in use of digital payments	14		
1.2.1 GitHub commits	19		
3.2.5 Privacy protection by law content	19		
3.3.3 Availability of local online content	19		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Czech Republic

Network Readiness Index Rank: 27 (out of 134) Score: 63.20

Pillar/sub-pillar	Rank	Score
A. Technology pillar	28	53.39
1st sub-pillar: Access	55	67.92
2nd sub-pillar: Content	21	46.35
3rd sub-pillar: Future Technologies	32	45.92
B. People pillar	40	50.37
1st sub-pillar: Individuals	87	42.20
2nd sub-pillar: Businesses	30	60.76
3rd sub-pillar: Governments	39	48.13

Pillar/sub-pillar	Rank	Score
C. Governance pillar	22	79.76
1st sub-pillar: Trust	15	81.11
2nd sub-pillar: Regulation	21	83.18
3rd sub-pillar: Inclusion	36	74.99
D. Impact pillar	20	69.27
1st sub-pillar: Economy	24	43.44
2nd sub-pillar: Quality of Life	9	87.35
3rd sub-pillar: SDG Contribution	31	77.04

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	28	53.39	
1st sub-pillar: Access	55	67.92	
1.1.1 Mobile tariffs	24	81.99	
1.1.2 Handset prices	46	60.44	
1.1.3 FTTH/building Internet subscriptions	67	28.08	
1.1.4 Population covered by at least a 3G mobile network	40	99.93	
1.1.5 International Internet bandwidth	78	69.15	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	21	46.35	
1.2.1 GitHub commits	19	55.84	●
1.2.2 Internet domain registrations	20	43.24	
1.2.3 Mobile apps development	27	75.17	
1.2.4 AI scientific publications	43	11.14	
3rd sub-pillar: Future Technologies	32	45.92	
1.3.1 Adoption of emerging technologies	24	72.11	
1.3.2 Investment in emerging technologies	36	55.00	

Indicator	Rank	Score	
C. Governance pillar	22	79.76	
1st sub-pillar: Trust	15	81.11	
3.1.1 Secure Internet servers	12	88.74	●
3.1.2 Cybersecurity	76	73.92	○
3.1.3 Online access to financial account	12	75.65	●
3.1.4 Internet shopping	10	86.12	●
2nd sub-pillar: Regulation	21	83.18	
3.2.1 Regulatory quality	21	80.06	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	36	62.86	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	19	85.93	●
3rd sub-pillar: Inclusion	36	74.99	
3.3.1 E-Participation	57	59.31	
3.3.2 Socioeconomic gap in use of digital payments	14	96.86	●
3.3.3 Availability of local online content	19	86.30	●

Indicator	Rank	Score	
1.3.3 Robot density	17	25.79	
1.3.4 Computer software spending	34	30.77	
B. People pillar	40	50.37	
1st sub-pillar: Individuals	87	42.20	
2.1.1 Mobile broadband internet traffic within the country	57	10.93	
2.1.2 ICT skills in the education system	33	67.34	
2.1.3 Use of virtual social networks	42	72.53	
2.1.4 Tertiary enrollment	44	44.10	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	27	16.09	
2nd sub-pillar: Businesses	30	60.76	
2.2.1 Firms with website	13	84.73	●
2.2.2 GERD financed by business enterprise	51	44.60	
2.2.3 Knowledge intensive employment	29	60.76	
2.2.4 Annual investment in telecommunication services	44	81.62	
2.2.5 GERD performed by business enterprise	19	32.11	
3rd sub-pillar: Governments	39	48.13	
2.3.1 Government online services	72	63.45	
2.3.2 Publication and use of open data	35	44.12	
2.3.3 Government promotion of investment in emerging tech	40	49.16	
2.3.4 R&D expenditure by governments and higher education	19	35.80	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	80	62.44	○
3.3.5 Rural gap in use of digital payments	49	70.07	
D. Impact pillar	20	69.27	
1st sub-pillar: Economy	24	43.44	
4.1.1 High-tech and medium-high-tech manufacturing	4	75.43	●
4.1.2 High-tech exports	23	36.57	
4.1.3 PCT patent applications	33	17.30	
4.1.4 Domestic market size	47	60.48	
4.1.5 Prevalence of gig economy	53	45.35	
4.1.6 ICT services exports	38	25.49	
2nd sub-pillar: Quality of Life	9	87.35	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	9	92.46	●
4.2.4 Healthy life expectancy at birth	36	82.23	
3rd sub-pillar: SDG Contribution	31	77.04	
4.3.1 SDG 3: Good Health and Well-Being	35	82.04	
4.3.2 SDG 4: Quality Education	23	65.89	
4.3.3 SDG 5: Women's economic opportunity	29	91.15	
4.3.4 SDG 7: Affordable and Clean Energy	77	68.79	○
4.3.5 SDG 11: Sustainable Cities and Communities	42	77.34	

NOTE: ● a strength and ○ a weakness.

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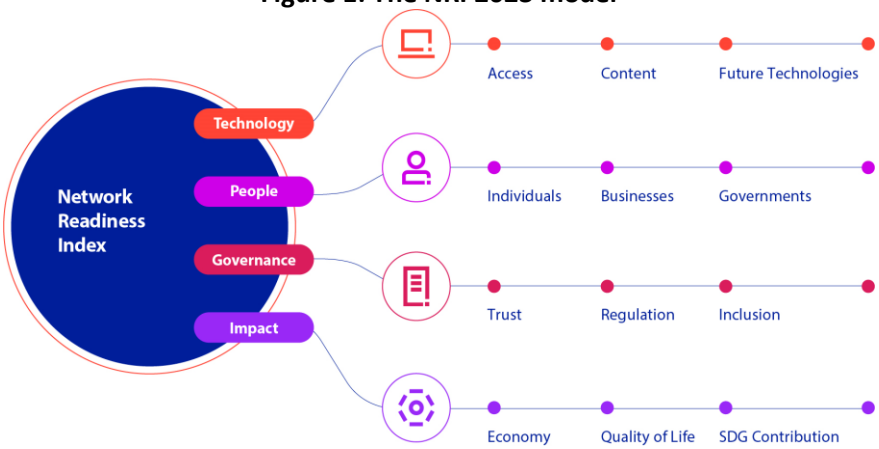
Denmark

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

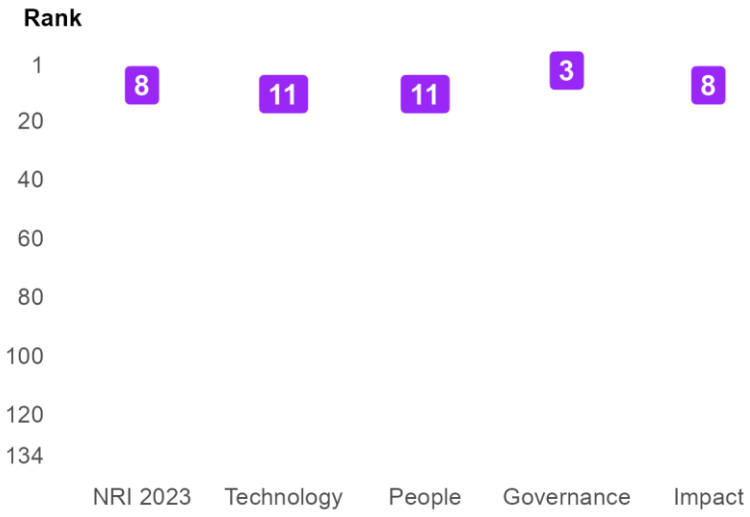
Figure 1: The NRI 2023 model



Global NRI position of Denmark

Denmark ranks 8th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Denmark global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Denmark relate to Trust, Quality of Life and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Economy and Individuals sub-pillars.

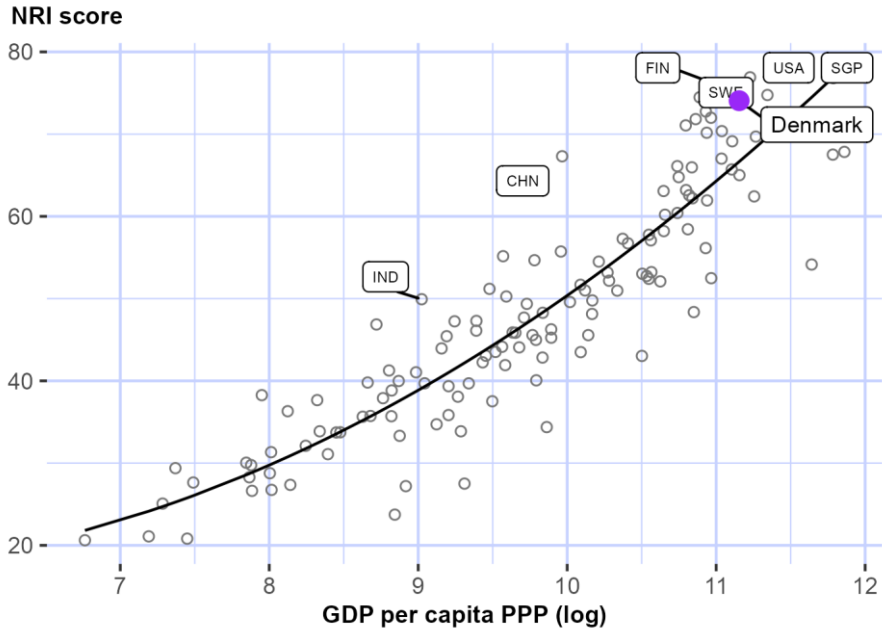
Table 1: Denmark rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	1	Businesses	9
Quality of Life	3	Future Technologies	10
SDG Contribution	3	Inclusion	12
Governments	8	Access	17
Regulation	8	Economy	19
Content	9	Individuals	64

NRI score and income

Figure 3 shows the position of Denmark in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Denmark is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Denmark belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Denmark is ranked 8th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Denmark is ranked 5th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Denmark against its income group and region, overall and by pillar

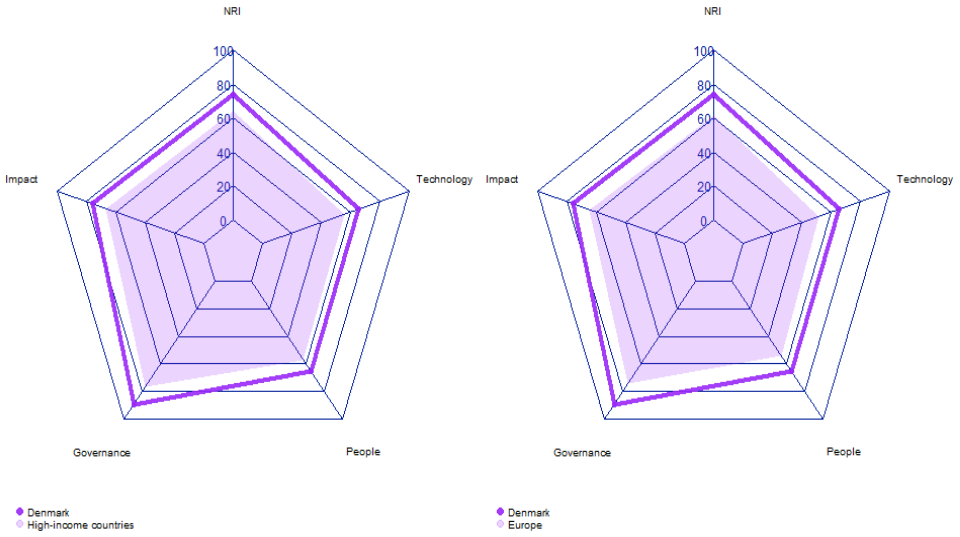


Table 2: Denmark scores vs. averages of its income group and region, overall and by pillar

Dimension	Denmark	High-income countries	Europe
NRI	74.06	64.07	61.25
Technology	65.42	55.76	51.90
People	65.26	56.99	54.16
Governance	89.53	76.81	74.33
Impact	76.04	66.73	64.61

Strongest and weakest indicators

The indicators where Denmark performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.1.1 Secure Internet servers (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 1.1.3 FTTH/building Internet subscriptions, and 4.1.4 Domestic market size.

Table 3: Highlight of Strengths and Opportunities for Denmark

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	29
1.1.6 Internet access in schools	1	4.1.4 Domestic market size	51
3.1.1 Secure Internet servers	1	1.1.3 FTTH/building Internet subscriptions	66
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	80
4.3.3 SDG 5: Women's economic opportunity	1		
2.2.1 Firms with website	2		
3.1.3 Online access to financial account	2		
3.1.4 Internet shopping	2		
4.2.1 Happiness	3		
2.3.1 Government online services	4		
3.2.1 Regulatory quality	5		
1.2.2 Internet domain registrations	6		
3.3.2 Socioeconomic gap in use of digital payments	7		
4.1.3 PCT patent applications	7		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Denmark

Network Readiness Index — Rank: 8 (out of 134) — Score: 74.06

Pillar/sub-pillar	Rank	Score
A. Technology pillar	11	65.42
1st sub-pillar: Access	17	76.71
2nd sub-pillar: Content	9	57.26
3rd sub-pillar: Future Technologies	10	62.30
B. People pillar	11	65.26
1st sub-pillar: Individuals	64	47.92
2nd sub-pillar: Businesses	9	74.89
3rd sub-pillar: Governments	8	72.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	3	89.53
1st sub-pillar: Trust	1	97.41
2nd sub-pillar: Regulation	8	88.14
3rd sub-pillar: Inclusion	12	83.05
D. Impact pillar	8	76.04
1st sub-pillar: Economy	19	48.59
2nd sub-pillar: Quality of Life	3	91.97
3rd sub-pillar: SDG Contribution	3	87.56

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	11	65.42	
1st sub-pillar: Access	17	76.71	
1.1.1 Mobile tariffs	8	91.37	
1.1.2 Handset prices	28	70.91	
1.1.3 FTTH/building Internet subscriptions	66	28.94	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	80	69.03	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	9	57.26	
1.2.1 GitHub commits	14	60.87	
1.2.2 Internet domain registrations	6	82.93	●
1.2.3 Mobile apps development	16	76.44	
1.2.4 AI scientific publications	50	8.79	
3rd sub-pillar: Future Technologies	10	62.30	
1.3.1 Adoption of emerging technologies	13	84.22	
1.3.2 Investment in emerging technologies	14	76.75	
1.3.3 Robot density	11	37.40	

Indicator	Rank	Score	
C. Governance pillar	3	89.53	
1st sub-pillar: Trust	1	97.41	
3.1.1 Secure Internet servers	1	100.00	●
3.1.2 Cybersecurity	39	92.47	
3.1.3 Online access to financial account	2	97.24	●
3.1.4 Internet shopping	2	99.93	●
2nd sub-pillar: Regulation	8	88.14	
3.2.1 Regulatory quality	5	90.46	●
3.2.2 ICT regulatory environment	9	95.29	
3.2.3 Regulation of emerging technologies	17	77.92	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	37	77.02	
3rd sub-pillar: Inclusion	12	83.05	
3.3.1 E-Participation	12	88.38	
3.3.2 Socioeconomic gap in use of digital payments	7	99.19	●
3.3.3 Availability of local online content	34	79.09	
3.3.4 Gender gap in Internet use	24	72.05	

Indicator	Rank	Score	
1.3.4 Computer software spending	22	50.82	
B. People pillar	11	65.26	
1st sub-pillar: Individuals	64	47.92	
2.1.1 Mobile broadband internet traffic within the country	46	17.33	
2.1.2 ICT skills in the education system	20	74.12	
2.1.3 Use of virtual social networks	18	79.28	
2.1.4 Tertiary enrollment	20	54.08	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	29	14.81	○
2nd sub-pillar: Businesses	9	74.89	
2.2.1 Firms with website	2	96.20	●
2.2.2 GERD financed by business enterprise	15	73.73	
2.2.3 Knowledge intensive employment	13	75.17	
2.2.4 Annual investment in telecommunication services	32	84.59	
2.2.5 GERD performed by business enterprise	14	44.80	
3rd sub-pillar: Governments	8	72.96	
2.3.1 Government online services	4	97.76	●
2.3.2 Publication and use of open data	14	70.59	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	12	50.53	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	15	76.53	
D. Impact pillar	8	76.04	
1st sub-pillar: Economy	19	48.59	
4.1.1 High-tech and medium-high-tech manufacturing	10	63.46	
4.1.2 High-tech exports	39	24.55	
4.1.3 PCT patent applications	7	68.05	●
4.1.4 Domestic market size	51	58.28	○
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	33	28.60	
2nd sub-pillar: Quality of Life	3	91.97	
4.2.1 Happiness	3	96.58	●
4.2.2 Freedom to make life choices	12	92.37	
4.2.3 Income inequality	11	89.20	
4.2.4 Healthy life expectancy at birth	18	89.75	
3rd sub-pillar: SDG Contribution	3	87.56	
4.3.1 SDG 3: Good Health and Well-Being	17	92.69	
4.3.2 SDG 4: Quality Education	17	68.16	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	11	84.18	
4.3.5 SDG 11: Sustainable Cities and Communities	15	92.79	

NOTE: ● a strength and ○ a weakness.

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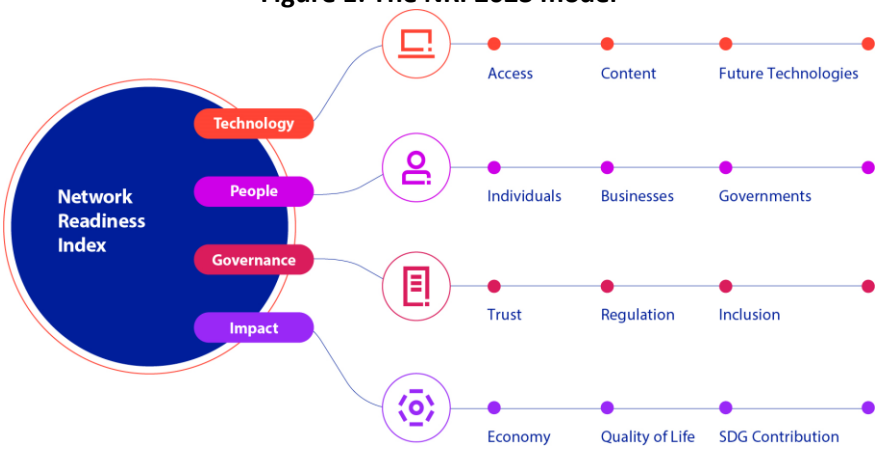
Dominican Republic

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

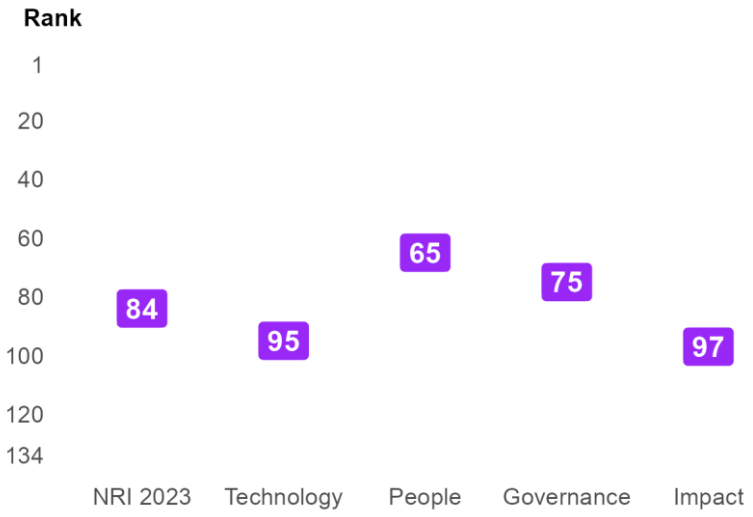
Figure 1: The NRI 2023 model



Global NRI position of Dominican Republic

Dominican Republic ranks 84th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Dominican Republic global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Dominican Republic relate to Regulation, Governments and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Content and SDG Contribution sub-pillars.

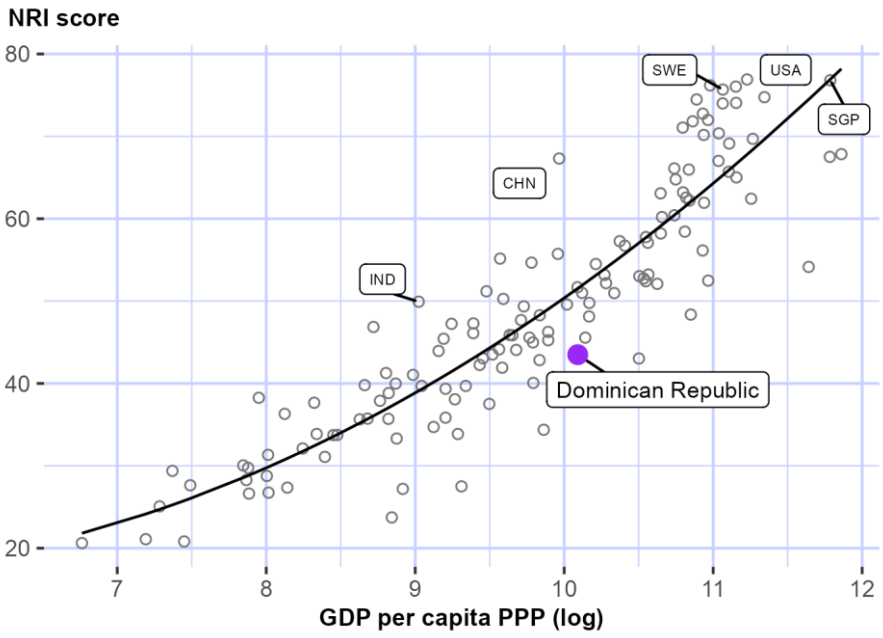
Table 1: Dominican Republic rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	42	Economy	89
Governments	62	Trust	91
Businesses	64	Access	94
Individuals	75	Future Technologies	96
Quality of Life	75	Content	104
Inclusion	89	SDG Contribution	116

NRI score and income

Figure 3 shows the position of Dominican Republic in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Dominican Republic is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Dominican Republic belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Dominican Republic is ranked 26th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: People. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Businesses, Governments, Regulation and Quality of Life.

The Americas

Dominican Republic is ranked 12th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Businesses, Governments and Regulation.

Figure 4: Performance of Dominican Republic against its income group and region, overall and by pillar

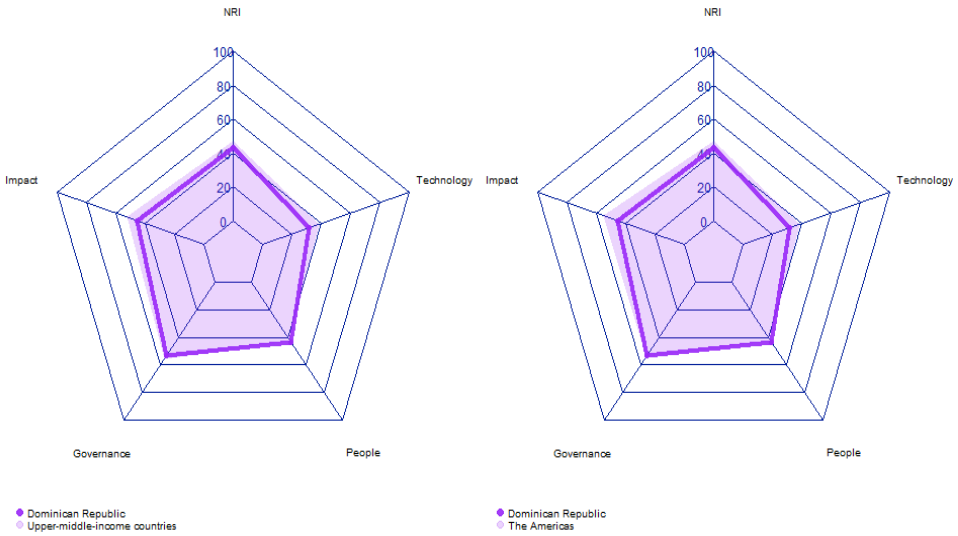


Table 2: Dominican Republic scores vs. averages of its income group and region, overall and by pillar

Dimension	Dominican Republic	Upper-middle-income countries	The Americas
NRI	43.49	47.35	47.41
Technology	31.58	38.48	38.24
People	43.73	42.59	42.35
Governance	53.39	55.90	54.12
Impact	45.27	52.43	54.93

Strongest and weakest indicators

The indicators where Dominican Republic performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 1.2.4 AI scientific publications, and 1.3.4 Computer software spending.

Table 3: Highlight of Strengths and Opportunities for Dominican Republic

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	76
3.2.2 ICT regulatory environment	3	2.1.2 ICT skills in the education system	91
4.3.4 SDG 7: Affordable and Clean Energy	8	1.3.4 Computer software spending	120
3.2.5 Privacy protection by law content	10	1.2.4 AI scientific publications	128
3.3.4 Gender gap in Internet use	15	4.3.5 SDG 11: Sustainable Cities and Communities	132
1.1.4 Population covered by at least a 3G mobile network	50		
4.2.2 Freedom to make life choices	51		
2.1.4 Tertiary enrollment	52		
4.3.3 SDG 5: Women's economic opportunity	56		
4.1.2 High-tech exports	57		
1.1.5 International Internet bandwidth	60		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Dominican Republic

Network Readiness Index Rank: 84 (out of 134) Score: 43.49

Pillar/sub-pillar	Rank	Score
A. Technology pillar	95	31.58
1st sub-pillar: Access	94	54.13
2nd sub-pillar: Content	104	14.48
3rd sub-pillar: Future Technologies	96	26.13
B. People pillar	65	43.73
1st sub-pillar: Individuals	75	45.21
2nd sub-pillar: Businesses	64	45.43
3rd sub-pillar: Governments	62	40.54

Pillar/sub-pillar	Rank	Score
C. Governance pillar	75	53.39
1st sub-pillar: Trust	91	33.57
2nd sub-pillar: Regulation	42	73.43
3rd sub-pillar: Inclusion	89	53.17
D. Impact pillar	97	45.27
1st sub-pillar: Economy	89	21.48
2nd sub-pillar: Quality of Life	75	66.56
3rd sub-pillar: SDG Contribution	116	47.77

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	95	31.58	
1st sub-pillar: Access	94	54.13	
1.1.1 Mobile tariffs	81	52.94	
1.1.2 Handset prices	65	46.97	
1.1.3 FTTH/building Internet subscriptions	64	29.20	
1.1.4 Population covered by at least a 3G mobile network	50	99.84	●
1.1.5 International Internet bandwidth	60	72.66	●
1.1.6 Internet access in schools	66	23.16	
2nd sub-pillar: Content	104	14.48	
1.2.1 GitHub commits	87	3.25	
1.2.2 Internet domain registrations	81	2.00	
1.2.3 Mobile apps development	101	52.59	
1.2.4 AI scientific publications	128	0.09	○
3rd sub-pillar: Future Technologies	96	26.13	
1.3.1 Adoption of emerging technologies	62	48.00	
1.3.2 Investment in emerging technologies	99	29.00	

Indicator	Rank	Score	
C. Governance pillar	75	53.39	
1st sub-pillar: Trust	91	33.57	
3.1.1 Secure Internet servers	99	38.51	
3.1.2 Cybersecurity	74	74.61	
3.1.3 Online access to financial account	100	12.98	
3.1.4 Internet shopping	100	8.19	
2nd sub-pillar: Regulation	42	73.43	
3.2.1 Regulatory quality	66	51.61	
3.2.2 ICT regulatory environment	3	97.65	●
3.2.3 Regulation of emerging technologies	92	27.53	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	10	90.37	●
3rd sub-pillar: Inclusion	89	53.17	
3.3.1 E-Participation	82	44.18	
3.3.2 Socioeconomic gap in use of digital payments	112	43.97	
3.3.3 Availability of local online content	68	60.10	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	120	1.38	○
B. People pillar		65	43.73	
1st sub-pillar: Individuals		75	45.21	
2.1.1	Mobile broadband internet traffic within the country	87	4.59	
2.1.2	ICT skills in the education system	91	28.07	○
2.1.3	Use of virtual social networks	72	61.39	
2.1.4	Tertiary enrollment	52	38.60	●
2.1.5	Adult literacy rate	50	93.41	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		64	45.43	
2.2.1	Firms with website	80	37.55	
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	86	20.26	
2.2.4	Annual investment in telecommunication services	61	78.48	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		62	40.54	
2.3.1	Government online services	79	57.81	
2.3.2	Publication and use of open data	55	32.35	
2.3.3	Government promotion of investment in emerging tech	85	31.46	
2.3.4	R&D expenditure by governments and higher education	NA	NA	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	15	74.08	●
3.3.5	Rural gap in use of digital payments	98	43.53	
D. Impact pillar		97	45.27	
1st sub-pillar: Economy		89	21.48	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	57	15.14	●
4.1.3	PCT patent applications	82	0.96	
4.1.4	Domestic market size	62	53.65	
4.1.5	Prevalence of gig economy	79	35.47	
4.1.6	ICT services exports	114	2.20	
2nd sub-pillar: Quality of Life		75	66.56	
4.2.1	Happiness	79	58.88	
4.2.2	Freedom to make life choices	51	79.68	●
4.2.3	Income inequality	69	61.56	
4.2.4	Healthy life expectancy at birth	87	66.11	
3rd sub-pillar: SDG Contribution		116	47.77	
4.3.1	SDG 3: Good Health and Well-Being	86	61.36	
4.3.2	SDG 4: Quality Education	76	0.00	○
4.3.3	SDG 5: Women's economic opportunity	56	80.53	●
4.3.4	SDG 7: Affordable and Clean Energy	8	85.19	●
4.3.5	SDG 11: Sustainable Cities and Communities	132	11.76	○

NOTE: ● a strength and ○ a weakness.

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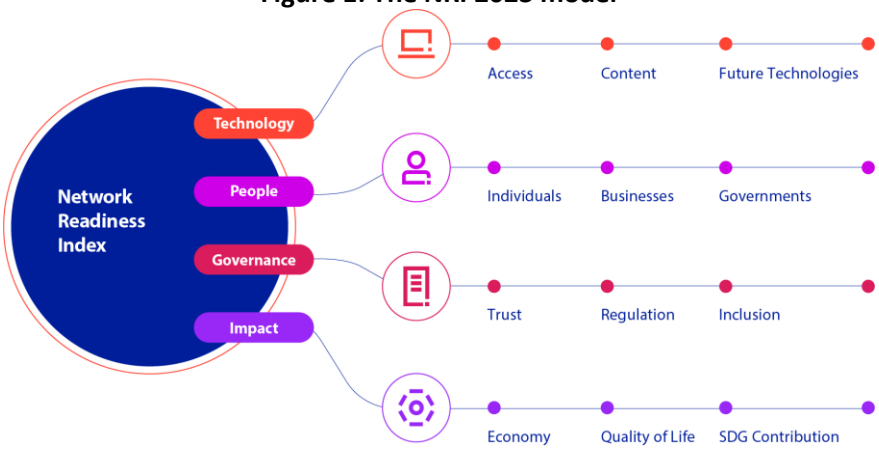
Ecuador

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

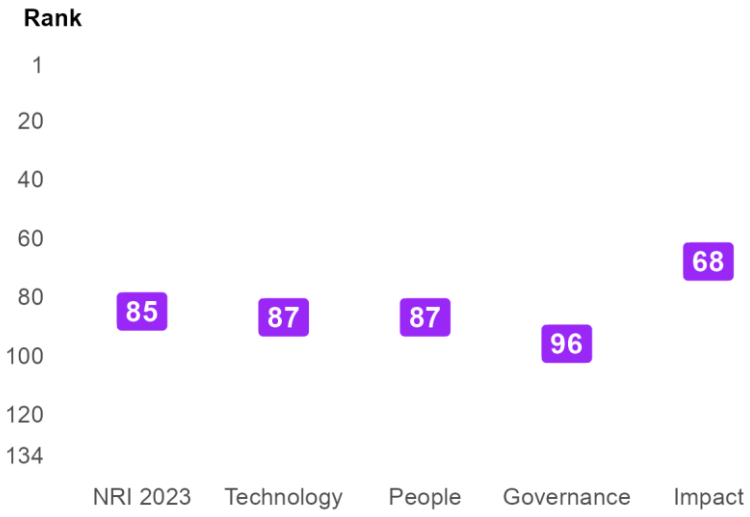
Figure 1: The NRI 2023 model



Global NRI position of Ecuador

Ecuador ranks 85th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Ecuador global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ecuador relate to SDG Contribution, Individuals and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Trust and Economy sub-pillars.

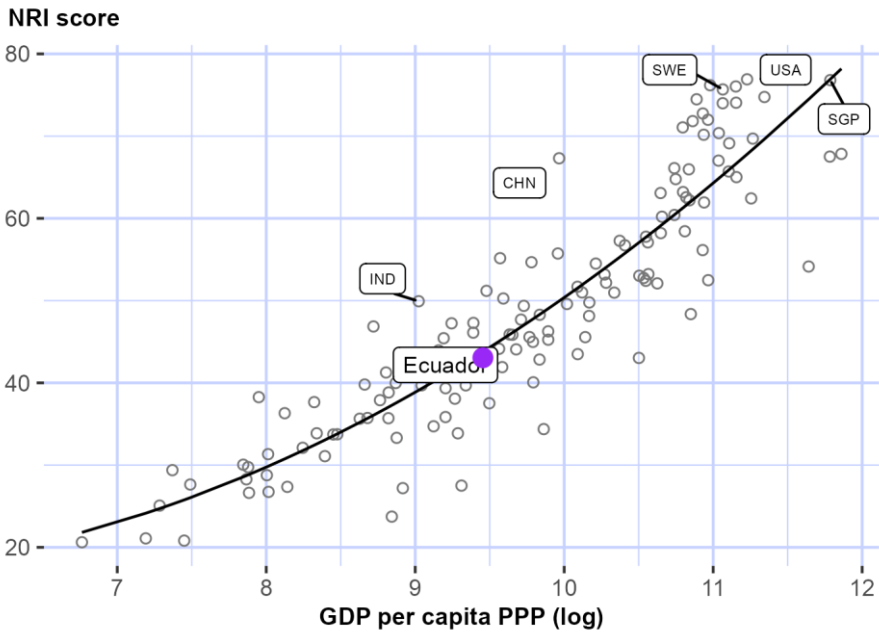
Table 1: Ecuador rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	23	Governments	90
Individuals	74	Businesses	92
Inclusion	76	Regulation	93
Access	82	Content	94
Quality of Life	83	Trust	108
Future Technologies	89	Economy	116

NRI score and income

Figure 3 shows the position of Ecuador in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ecuador is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Ecuador belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Ecuador is ranked 27th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: SDG Contribution.

The Americas

Ecuador is ranked 13th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Access and SDG Contribution.

Figure 4: Performance of Ecuador against its income group and region, overall and by pillar

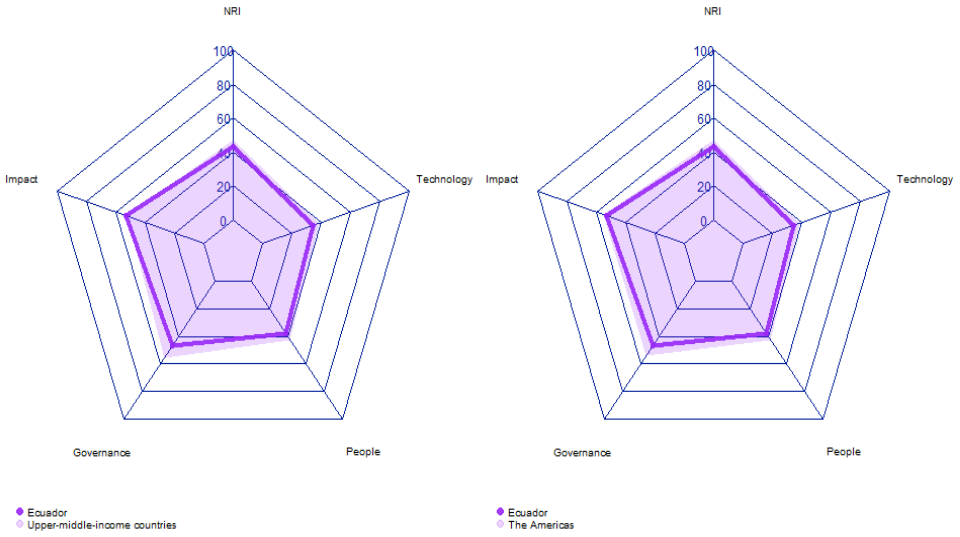


Table 2: Ecuador scores vs. averages of its income group and region, overall and by pillar

Dimension	Ecuador	Upper-middle-income countries	The Americas
NRI	43.05	47.35	47.41
Technology	34.53	38.48	38.24
People	37.74	42.59	42.35
Governance	46.86	55.90	54.12
Impact	53.08	52.43	54.93

Strongest and weakest indicators

The indicators where Ecuador performs particularly well include 3.2.4 E-commerce legislation, 1.1.3 FTTH/building Internet subscriptions, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 4.1.5 Prevalence of gig economy, 1.3.2 Investment in emerging technologies, and 3.1.3 Online access to financial account.

Table 3: Highlight of Strengths and Opportunities for Ecuador

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.2 ICT skills in the education system	94
1.1.3 FTTH/building Internet subscriptions	20	2.2.2 GERD financed by business enterprise	98
2.2.1 Firms with website	22	3.1.3 Online access to financial account	110
4.3.1 SDG 3: Good Health and Well-Being	29	1.3.2 Investment in emerging technologies	114
3.3.4 Gender gap in Internet use	33	4.1.5 Prevalence of gig economy	115
4.3.4 SDG 7: Affordable and Clean Energy	37		
3.3.1 E-Participation	41		
4.2.4 Healthy life expectancy at birth	42		
4.3.3 SDG 5: Women's economic opportunity	42		
2.1.3 Use of virtual social networks	49		
2.3.1 Government online services	50		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Ecuador

Network Readiness Index Rank: 85 (out of 134) Score: 43.05

Pillar/sub-pillar	Rank	Score
A. Technology pillar	87	34.53
1st sub-pillar: Access	82	58.62
2nd sub-pillar: Content	94	17.59
3rd sub-pillar: Future Technologies	89	27.37
B. People pillar	87	37.74
1st sub-pillar: Individuals	74	46.19
2nd sub-pillar: Businesses	92	35.63
3rd sub-pillar: Governments	90	31.40

Pillar/sub-pillar	Rank	Score
C. Governance pillar	96	46.86
1st sub-pillar: Trust	108	24.26
2nd sub-pillar: Regulation	93	58.96
3rd sub-pillar: Inclusion	76	57.36
D. Impact pillar	68	53.08
1st sub-pillar: Economy	116	15.07
2nd sub-pillar: Quality of Life	83	63.52
3rd sub-pillar: SDG Contribution	23	80.64

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	87	34.53	
1st sub-pillar: Access	82	58.62	
1.1.1 Mobile tariffs	82	52.83	
1.1.2 Handset prices	64	47.02	
1.1.3 FTTH/building Internet subscriptions	20	48.18	●
1.1.4 Population covered by at least a 3G mobile network	90	98.54	
1.1.5 International Internet bandwidth	104	63.55	
1.1.6 Internet access in schools	55	41.59	
2nd sub-pillar: Content	94	17.59	
1.2.1 GitHub commits	80	4.13	
1.2.2 Internet domain registrations	85	1.62	
1.2.3 Mobile apps development	91	57.79	
1.2.4 AI scientific publications	61	6.83	
3rd sub-pillar: Future Technologies	89	27.37	
1.3.1 Adoption of emerging technologies	83	38.94	
1.3.2 Investment in emerging technologies	114	23.25	○

Indicator	Rank	Score	
C. Governance pillar	96	46.86	
1st sub-pillar: Trust	108	24.26	
3.1.1 Secure Internet servers	80	47.43	
3.1.2 Cybersecurity	112	25.00	
3.1.3 Online access to financial account	110	9.80	○
3.1.4 Internet shopping	82	14.79	
2nd sub-pillar: Regulation	93	58.96	
3.2.1 Regulatory quality	110	33.73	
3.2.2 ICT regulatory environment	79	76.47	
3.2.3 Regulation of emerging technologies	98	24.42	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	80	60.21	
3rd sub-pillar: Inclusion	76	57.36	
3.3.1 E-Participation	41	69.76	●
3.3.2 Socioeconomic gap in use of digital payments	100	54.30	
3.3.3 Availability of local online content	100	39.18	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	69	19.93	
B. People pillar	87	37.74	
1st sub-pillar: Individuals	74	46.19	
2.1.1 Mobile broadband internet traffic within the country	67	9.40	
2.1.2 ICT skills in the education system	94	26.23	○
2.1.3 Use of virtual social networks	49	69.21	●
2.1.4 Tertiary enrollment	66	33.66	
2.1.5 Adult literacy rate	55	92.47	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	92	35.63	
2.2.1 Firms with website	22	79.48	●
2.2.2 GERD financed by business enterprise	98	0.25	○
2.2.3 Knowledge intensive employment	97	15.85	
2.2.4 Annual investment in telecommunication services	67	77.82	
2.2.5 GERD performed by business enterprise	55	4.78	
3rd sub-pillar: Governments	90	31.40	
2.3.1 Government online services	50	74.04	●
2.3.2 Publication and use of open data	69	22.06	
2.3.3 Government promotion of investment in emerging tech	102	21.70	
2.3.4 R&D expenditure by governments and higher education	65	7.80	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	33	71.07	●
3.3.5 Rural gap in use of digital payments	88	52.47	
D. Impact pillar	68	53.08	
1st sub-pillar: Economy	116	15.07	
4.1.1 High-tech and medium-high-tech manufacturing	87	11.05	
4.1.2 High-tech exports	77	8.53	
4.1.3 PCT patent applications	81	1.08	
4.1.4 Domestic market size	65	52.57	
4.1.5 Prevalence of gig economy	115	14.53	○
4.1.6 ICT services exports	108	2.65	
2nd sub-pillar: Quality of Life	83	63.52	
4.2.1 Happiness	65	65.74	
4.2.2 Freedom to make life choices	90	63.92	
4.2.3 Income inequality	99	43.22	
4.2.4 Healthy life expectancy at birth	42	81.20	●
3rd sub-pillar: SDG Contribution	23	80.64	
4.3.1 SDG 3: Good Health and Well-Being	29	85.26	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	42	84.96	●
4.3.4 SDG 7: Affordable and Clean Energy	37	77.60	●
4.3.5 SDG 11: Sustainable Cities and Communities	50	74.75	

NOTE: ● a strength and ○ a weakness.

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Egypt

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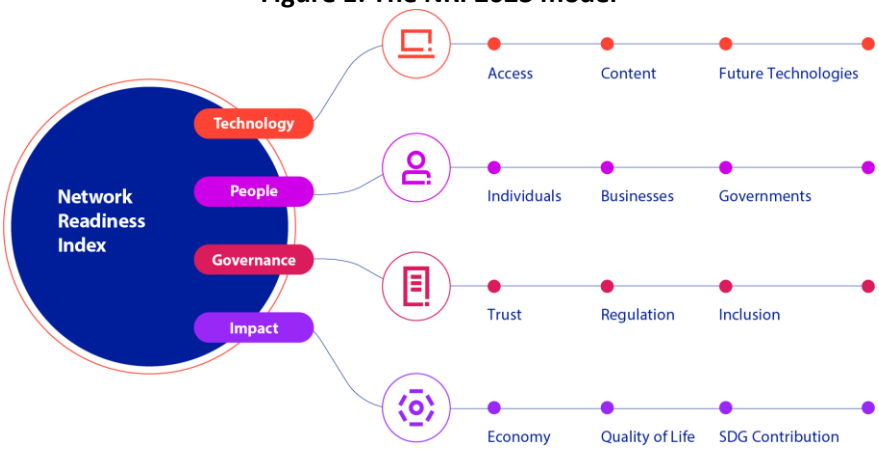
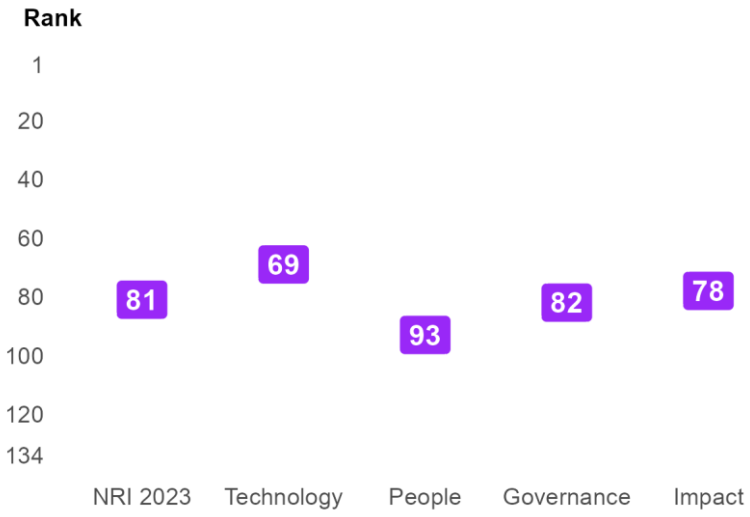
Figure 1: The NRI 2023 model



Global NRI position of Egypt

Egypt ranks 81st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Egypt global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Egypt relate to Access, Economy and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Quality of Life and Businesses sub-pillars.

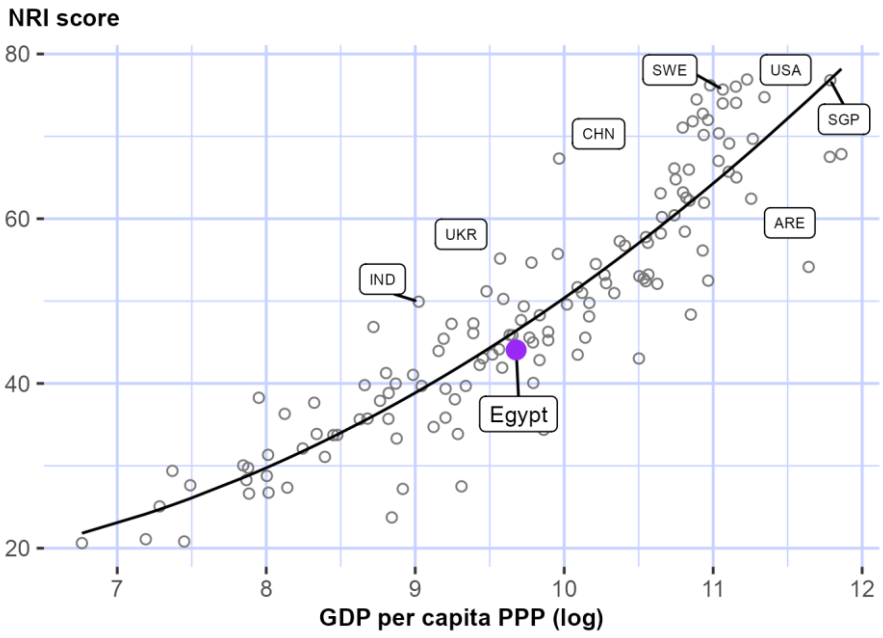
Table 1: Egypt rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	47	Future Technologies	88
Economy	50	Regulation	91
Inclusion	74	Individuals	92
Content	75	Trust	94
SDG Contribution	80	Quality of Life	97
Governments	86	Businesses	100

NRI score and income

Figure 3 shows the position of Egypt in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Egypt is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Egypt belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Egypt is ranked 9th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Access, Content, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Arab States

Egypt is ranked 9th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Arab States in five of the twelve sub-pillars: Access, Content, Regulation, Economy and SDG Contribution.

Figure 4: Performance of Egypt against its income group and region, overall and by pillar

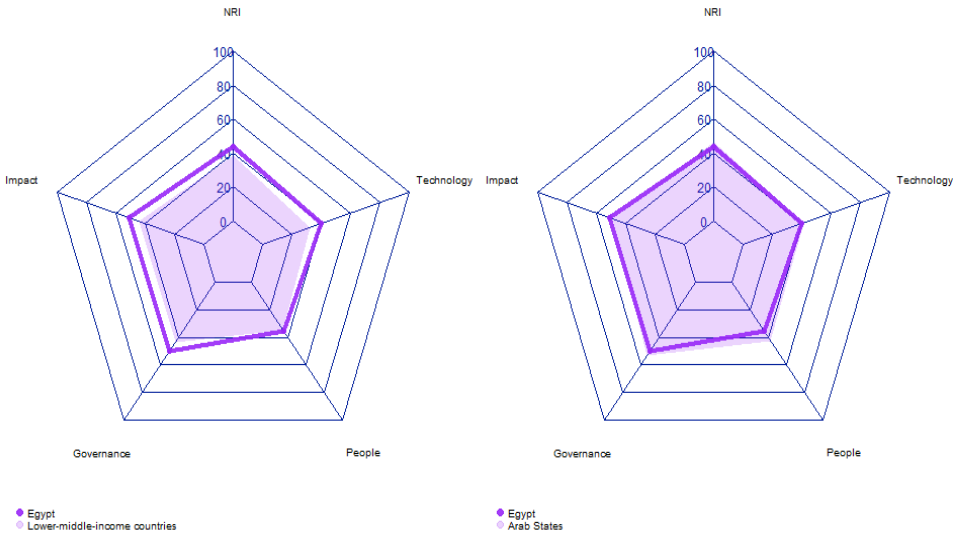


Table 2: Egypt scores vs. averages of its income group and region, overall and by pillar

Dimension	Egypt	Lower-middle-income countries	Arab States
NRI	44.07	38.41	46.59
Technology	39.94	32.12	41.17
People	35.37	34.38	42.66
Governance	50.25	43.27	53.45
Impact	50.73	43.89	49.08

Strongest and weakest indicators

The indicators where Egypt performs particularly well include 3.2.4 E-commerce legislation, 4.1.5 Prevalence of gig economy, and 1.1.5 International Internet bandwidth (Table 3). By contrast, the economy's weakest indicators include 3.1.3 Online access to financial account, 4.3.3 SDG 5: Women's economic opportunity, and 3.1.4 Internet shopping.

Table 3: Highlight of Strengths and Opportunities for Egypt

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	54
4.1.5 Prevalence of gig economy	7	4.2.1 Happiness	115
1.1.5 International Internet bandwidth	18	3.1.4 Internet shopping	120
4.1.4 Domestic market size	18	3.1.3 Online access to financial account	125
2.2.4 Annual investment in telecommunication services	21	4.3.3 SDG 5: Women's economic opportunity	125
1.2.4 AI scientific publications	24		
1.1.1 Mobile tariffs	29		
3.1.2 Cybersecurity	30		
4.2.3 Income inequality	31		
3.3.3 Availability of local online content	35		
1.1.3 FTTH/building Internet subscriptions	36		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Egypt

Network Readiness Index Rank: 81 (out of 134) Score: 44.07

Pillar/sub-pillar	Rank	Score
A. Technology pillar	69	39.94
1st sub-pillar: Access	47	70.59
2nd sub-pillar: Content	75	21.48
3rd sub-pillar: Future Technologies	88	27.74
B. People pillar	93	35.37
1st sub-pillar: Individuals	92	40.96
2nd sub-pillar: Businesses	100	32.43
3rd sub-pillar: Governments	86	32.73

Pillar/sub-pillar	Rank	Score
C. Governance pillar	82	50.25
1st sub-pillar: Trust	94	32.79
2nd sub-pillar: Regulation	91	59.85
3rd sub-pillar: Inclusion	74	58.11
D. Impact pillar	78	50.73
1st sub-pillar: Economy	50	34.10
2nd sub-pillar: Quality of Life	97	57.88
3rd sub-pillar: SDG Contribution	80	60.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	69	39.94	
1st sub-pillar: Access	47	70.59	
1.1.1 Mobile tariffs	29	79.18	●
1.1.2 Handset prices	60	52.03	
1.1.3 FTTH/building Internet subscriptions	36	39.08	●
1.1.4 Population covered by at least a 3G mobile network	46	99.90	
1.1.5 International Internet bandwidth	18	82.05	●
1.1.6 Internet access in schools	45	71.28	
2nd sub-pillar: Content	75	21.48	
1.2.1 GitHub commits	96	2.57	
1.2.2 Internet domain registrations	107	0.54	
1.2.3 Mobile apps development	85	60.36	
1.2.4 AI scientific publications	24	22.44	●
3rd sub-pillar: Future Technologies	88	27.74	
1.3.1 Adoption of emerging technologies	48	54.92	
1.3.2 Investment in emerging technologies	75	37.00	

Indicator	Rank	Score	
C. Governance pillar	82	50.25	
1st sub-pillar: Trust	94	32.79	
3.1.1 Secure Internet servers	115	29.76	
3.1.2 Cybersecurity	30	95.40	●
3.1.3 Online access to financial account	125	3.38	○
3.1.4 Internet shopping	120	2.61	○
2nd sub-pillar: Regulation	91	59.85	
3.2.1 Regulatory quality	97	38.16	
3.2.2 ICT regulatory environment	64	84.12	
3.2.3 Regulation of emerging technologies	84	32.47	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	110	44.51	
3rd sub-pillar: Inclusion	74	58.11	
3.3.1 E-Participation	95	33.73	
3.3.2 Socioeconomic gap in use of digital payments	114	42.95	
3.3.3 Availability of local online content	35	78.61	●

Indicator	Rank	Score	
1.3.3 Robot density	54	0.12	○
1.3.4 Computer software spending	72	18.94	
B. People pillar	93	35.37	
1st sub-pillar: Individuals	92	40.96	
2.1.1 Mobile broadband internet traffic within the country	37	20.87	
2.1.2 ICT skills in the education system	48	55.84	
2.1.3 Use of virtual social networks	96	37.83	
2.1.4 Tertiary enrollment	75	27.00	
2.1.5 Adult literacy rate	90	63.26	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	100	32.43	
2.2.1 Firms with website	78	38.01	
2.2.2 GERD financed by business enterprise	83	4.86	
2.2.3 Knowledge intensive employment	62	32.60	
2.2.4 Annual investment in telecommunication services	21	85.97	●
2.2.5 GERD performed by business enterprise	76	0.70	
3rd sub-pillar: Governments	86	32.73	
2.3.1 Government online services	86	52.81	
2.3.2 Publication and use of open data	82	13.24	
2.3.3 Government promotion of investment in emerging tech	43	47.77	
2.3.4 R&D expenditure by governments and higher education	42	17.09	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	72	65.51	
3.3.5 Rural gap in use of digital payments	51	69.77	
D. Impact pillar	78	50.73	
1st sub-pillar: Economy	50	34.10	
4.1.1 High-tech and medium-high-tech manufacturing	56	27.11	
4.1.2 High-tech exports	88	4.90	
4.1.3 PCT patent applications	77	1.55	
4.1.4 Domestic market size	18	71.90	●
4.1.5 Prevalence of gig economy	7	85.17	●
4.1.6 ICT services exports	65	13.96	
2nd sub-pillar: Quality of Life	97	57.88	
4.2.1 Happiness	115	31.08	○
4.2.2 Freedom to make life choices	97	59.58	
4.2.3 Income inequality	31	78.14	●
4.2.4 Healthy life expectancy at birth	93	62.73	
3rd sub-pillar: SDG Contribution	80	60.22	
4.3.1 SDG 3: Good Health and Well-Being	71	68.03	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	125	30.09	○
4.3.4 SDG 7: Affordable and Clean Energy	58	74.13	
4.3.5 SDG 11: Sustainable Cities and Communities	58	68.63	

NOTE: ● a strength and ○ a weakness.

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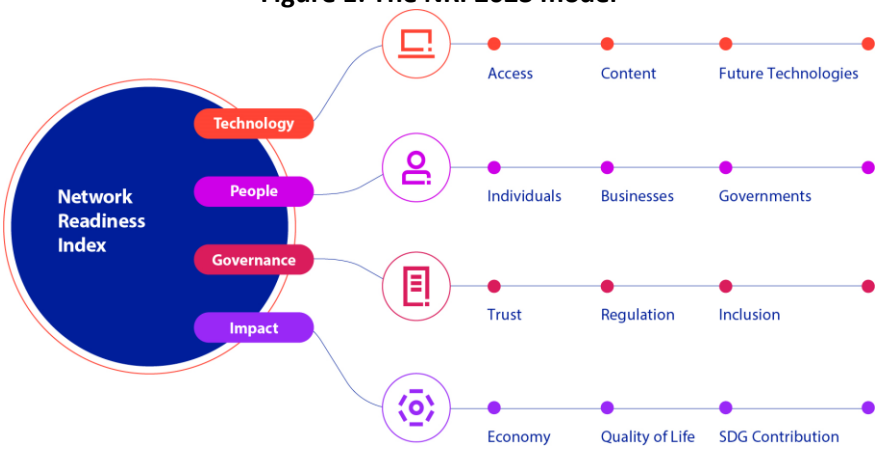
El Salvador

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

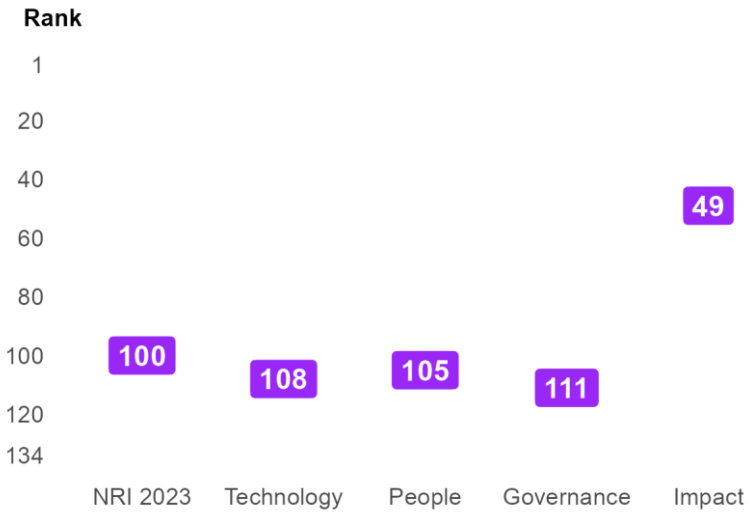
Figure 1: The NRI 2023 model



Global NRI position of El Salvador

El Salvador ranks 100th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: El Salvador global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of El Salvador relate to SDG Contribution, Quality of Life and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Trust and Governments sub-pillars.

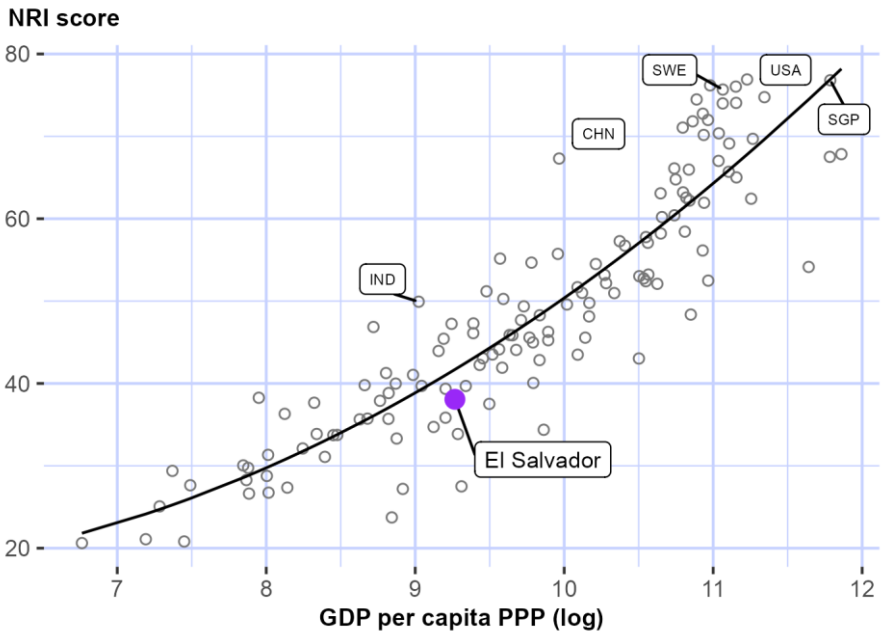
Table 1: El Salvador rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	34	Content	101
Quality of Life	47	Access	108
Businesses	91	Future Technologies	111
Regulation	95	Inclusion	116
Individuals	96	Trust	118
Economy	97	Governments	121

NRI score and income

Figure 3 shows the position of El Salvador in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, El Salvador is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). El Salvador belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

El Salvador is ranked 31st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in two of the twelve sub-pillars: Quality of Life and SDG Contribution.

The Americas

El Salvador is ranked 18th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Quality of Life and SDG Contribution.

Figure 4: Performance of El Salvador against its income group and region, overall and by pillar

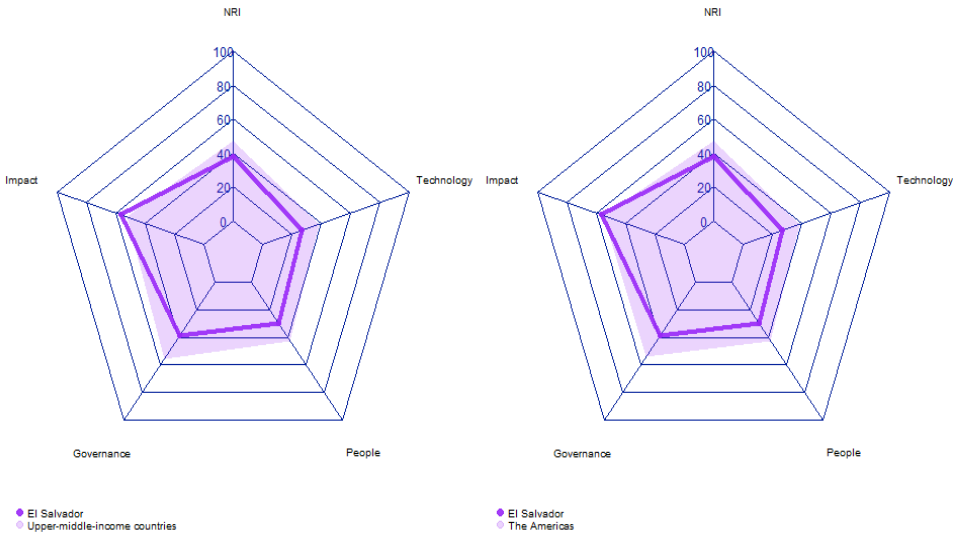


Table 2: El Salvador scores vs. averages of its income group and region, overall and by pillar

Dimension	El Salvador	Upper-middle-income countries	The Americas
NRI	38.07	47.35	47.41
Technology	27.14	38.48	38.24
People	30.05	42.59	42.35
Governance	38.75	55.90	54.12
Impact	56.36	52.43	54.93

Strongest and weakest indicators

The indicators where El Salvador performs particularly well include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 3.3.2 Socioeconomic gap in use of digital payments, 1.2.4 AI scientific publications, and 3.1.2 Cybersecurity.

Table 3: Highlight of Strengths and Opportunities for El Salvador

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	5	4.1.3 PCT patent applications	99
4.2.2 Freedom to make life choices	18	2.3.3 Government promotion of investment in emerging technologies	123
4.2.1 Happiness	29	1.2.4 AI scientific publications	124
4.3.3 SDG 5: Women's economic opportunity	44	3.1.2 Cybersecurity	124
4.3.4 SDG 7: Affordable and Clean Energy	44	3.3.2 Socioeconomic gap in use of digital payments	127
4.3.1 SDG 3: Good Health and Well-Being	47		
4.1.6 ICT services exports	48		
4.1.2 High-tech exports	61		
1.1.2 Handset prices	68		
4.3.5 SDG 11: Sustainable Cities and Communities	68		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: El Salvador

Network Readiness Index — Rank: 100 (out of 134) — Score: 38.07

Pillar/sub-pillar	Rank	Score
A. Technology pillar	108	27.14
1st sub-pillar: Access	108	46.31
2nd sub-pillar: Content	101	15.37
3rd sub-pillar: Future Technologies	111	19.74
B. People pillar	105	30.05
1st sub-pillar: Individuals	96	38.62
2nd sub-pillar: Businesses	91	35.77
3rd sub-pillar: Governments	121	15.76

Pillar/sub-pillar	Rank	Score
C. Governance pillar	111	38.75
1st sub-pillar: Trust	118	19.14
2nd sub-pillar: Regulation	95	57.51
3rd sub-pillar: Inclusion	116	39.60
D. Impact pillar	49	56.36
1st sub-pillar: Economy	97	19.01
2nd sub-pillar: Quality of Life	47	74.05
3rd sub-pillar: SDG Contribution	34	76.02

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	108	27.14	
1st sub-pillar: Access	108	46.31	
1.1.1 Mobile tariffs	105	35.73	
1.1.2 Handset prices	68	46.04	•
1.1.3 FTTH/building Internet subscriptions	111	6.88	
1.1.4 Population covered by at least a 3G mobile network	103	97.23	
1.1.5 International Internet bandwidth	83	68.76	
1.1.6 Internet access in schools	65	23.24	
2nd sub-pillar: Content	101	15.37	
1.2.1 GitHub commits	77	4.22	
1.2.2 Internet domain registrations	87	1.58	
1.2.3 Mobile apps development	96	55.52	
1.2.4 AI scientific publications	124	0.18	○
3rd sub-pillar: Future Technologies	111	19.74	
1.3.1 Adoption of emerging technologies	92	36.60	
1.3.2 Investment in emerging technologies	121	19.00	

Indicator	Rank	Score	
C. Governance pillar	111	38.75	
1st sub-pillar: Trust	118	19.14	
3.1.1 Secure Internet servers	96	39.37	
3.1.2 Cybersecurity	124	11.77	○
3.1.3 Online access to financial account	92	16.25	
3.1.4 Internet shopping	96	9.16	
2nd sub-pillar: Regulation	95	57.51	
3.2.1 Regulatory quality	89	41.83	
3.2.2 ICT regulatory environment	104	66.47	
3.2.3 Regulation of emerging technologies	104	20.00	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	5	92.60	•
3rd sub-pillar: Inclusion	116	39.60	
3.3.1 E-Participation	95	33.73	
3.3.2 Socioeconomic gap in use of digital payments	127	30.53	○
3.3.3 Availability of local online content	106	35.82	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	106	3.63	
B. People pillar		105	30.05	
1st sub-pillar: Individuals		96	38.62	
2.1.1	Mobile broadband internet traffic within the country	104	1.62	
2.1.2	ICT skills in the education system	92	27.84	
2.1.3	Use of virtual social networks	75	58.94	
2.1.4	Tertiary enrollment	87	18.36	
2.1.5	Adult literacy rate	64	86.33	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		91	35.77	
2.2.1	Firms with website	77	38.12	
2.2.2	GERD financed by business enterprise	53	43.42	
2.2.3	Knowledge intensive employment	88	19.62	
2.2.4	Annual investment in telecommunication services	76	76.36	
2.2.5	GERD performed by business enterprise	69	1.31	
3rd sub-pillar: Governments		121	15.76	
2.3.1	Government online services	105	41.09	
2.3.2	Publication and use of open data	82	13.24	
2.3.3	Government promotion of investment in emerging tech	123	5.90	○
2.3.4	R&D expenditure by governments and higher education	95	2.80	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	87	57.69	
3.3.5	Rural gap in use of digital payments	102	40.24	
D. Impact pillar		49	56.36	
1st sub-pillar: Economy		97	19.01	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	61	13.12	●
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	99	40.55	
4.1.5	Prevalence of gig economy	111	19.19	
4.1.6	ICT services exports	48	22.19	●
2nd sub-pillar: Quality of Life		47	74.05	
4.2.1	Happiness	29	77.00	●
4.2.2	Freedom to make life choices	18	89.79	●
4.2.3	Income inequality	75	60.30	
4.2.4	Healthy life expectancy at birth	76	69.10	
3rd sub-pillar: SDG Contribution		34	76.02	
4.3.1	SDG 3: Good Health and Well-Being	47	77.37	●
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	44	84.07	●
4.3.4	SDG 7: Affordable and Clean Energy	44	76.37	●
4.3.5	SDG 11: Sustainable Cities and Communities	68	66.27	●

NOTE: ● a strength and ○ a weakness.

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Estonia

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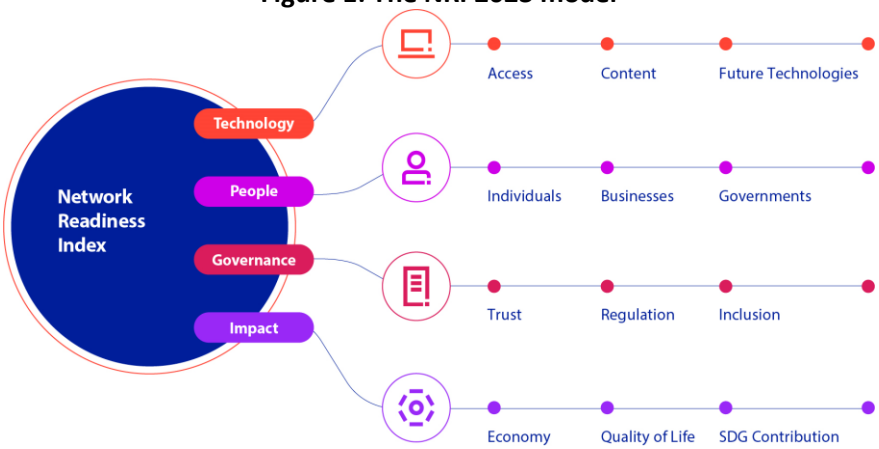
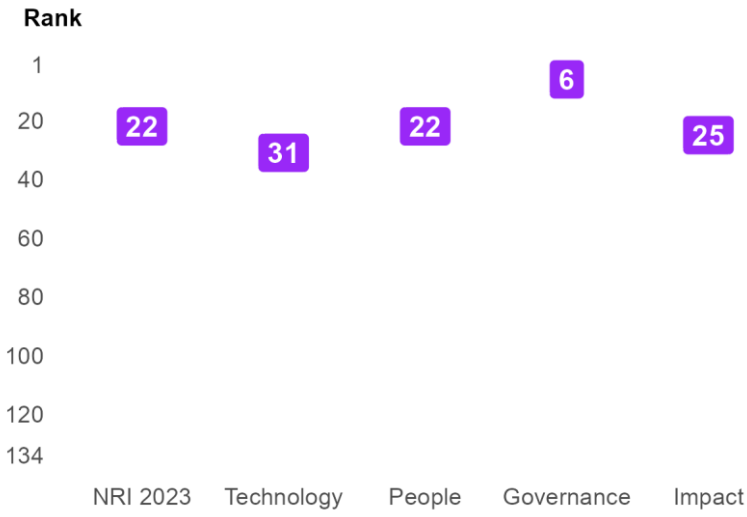
Figure 1: The NRI 2023 model



Global NRI position of Estonia

Estonia ranks 22nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Estonia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Estonia relate to Inclusion, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Access and Future Technologies sub-pillars.

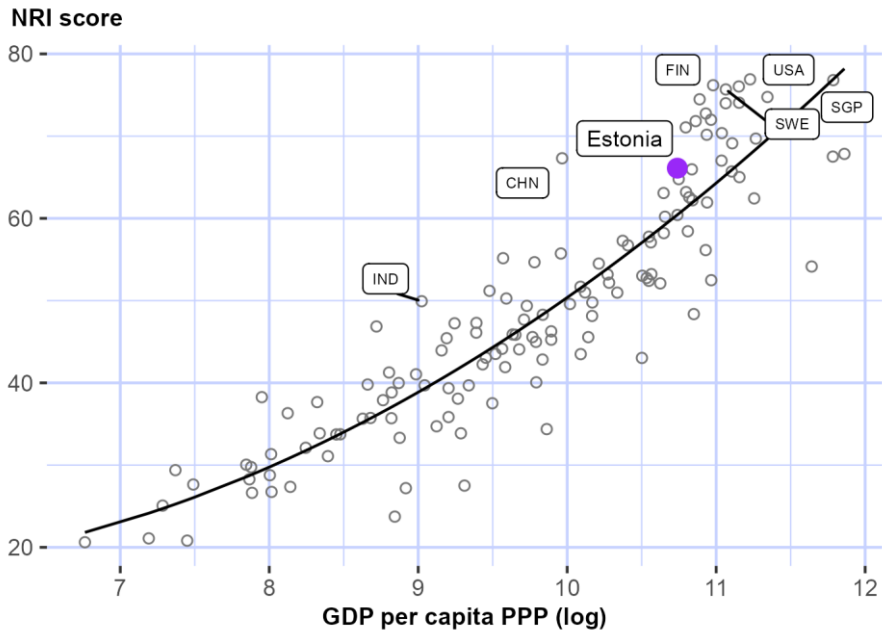
Table 1: Estonia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	3	Economy	25
Trust	7	Governments	26
Regulation	7	SDG Contribution	27
Quality of Life	20	Individuals	31
Content	24	Access	41
Businesses	25	Future Technologies	54

NRI score and income

Figure 3 shows the position of Estonia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Estonia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Estonia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Estonia is ranked 21st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms high-income countries in eight of the twelve sub-pillars: Content, Individuals, Businesses, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Estonia is ranked 15th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Estonia against its income group and region, overall and by pillar

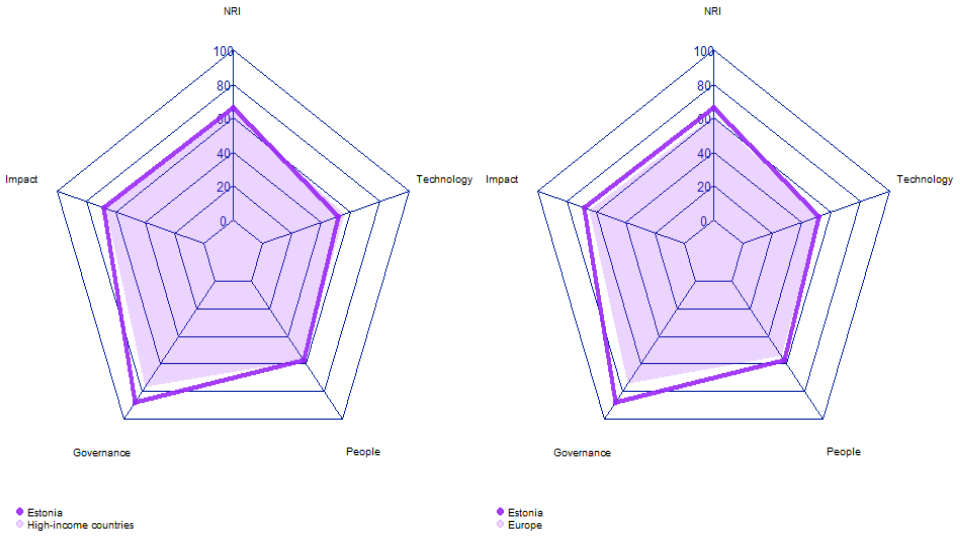


Table 2: Estonia scores vs. averages of its income group and region, overall and by pillar

Dimension	Estonia	High-income countries	Europe
NRI	66.11	64.07	61.25
Technology	51.33	55.76	51.90
People	57.59	56.99	54.16
Governance	87.71	76.81	74.33
Impact	67.80	66.73	64.61

Strongest and weakest indicators

The indicators where Estonia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 2.3.1 Government online services, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.1.4 Domestic market size.

Table 3: Highlight of Strengths and Opportunities for Estonia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	1.1.3 FTTH/building Internet subscriptions	92
2.3.1 Government online services	1	2.2.4 Annual investment in telecommunication services	93
3.2.4 E-commerce legislation	1	4.1.4 Domestic market size	102
3.3.1 E-Participation	3	4.3.4 SDG 7: Affordable and Clean Energy	104
2.1.5 Adult literacy rate	4	1.1.5 International Internet bandwidth	110
3.1.2 Cybersecurity	4		
4.3.2 SDG 4: Quality Education	4		
1.2.3 Mobile apps development	5		
3.1.1 Secure Internet servers	8		
3.1.3 Online access to financial account	8		
4.1.6 ICT services exports	8		
3.3.2 Socioeconomic gap in use of digital payments	13		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Estonia

Network Readiness Index — Rank: 22 (out of 134) — Score: 66.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	31	51.33
1st sub-pillar: Access	41	72.00
2nd sub-pillar: Content	24	45.15
3rd sub-pillar: Future Technologies	54	36.84
B. People pillar	22	57.59
1st sub-pillar: Individuals	31	54.56
2nd sub-pillar: Businesses	25	62.83
3rd sub-pillar: Governments	26	55.38

Pillar/sub-pillar	Rank	Score
C. Governance pillar	6	87.71
1st sub-pillar: Trust	7	87.92
2nd sub-pillar: Regulation	7	88.74
3rd sub-pillar: Inclusion	3	86.46
D. Impact pillar	25	67.80
1st sub-pillar: Economy	25	42.43
2nd sub-pillar: Quality of Life	20	81.87
3rd sub-pillar: SDG Contribution	27	79.10

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	31	51.33	
1st sub-pillar: Access	41	72.00	
1.1.1 Mobile tariffs	38	75.63	
1.1.2 Handset prices	19	77.12	
1.1.3 FTTH/building Internet subscriptions	92	17.53	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	110	62.48	○
1.1.6 Internet access in schools	30	99.24	
2nd sub-pillar: Content	24	45.15	
1.2.1 GitHub commits	16	60.05	
1.2.2 Internet domain registrations	25	34.69	
1.2.3 Mobile apps development	5	84.06	●
1.2.4 AI scientific publications	89	1.80	
3rd sub-pillar: Future Technologies	54	36.84	
1.3.1 Adoption of emerging technologies	22	73.19	
1.3.2 Investment in emerging technologies	35	58.75	

Indicator	Rank	Score	
C. Governance pillar	6	87.71	
1st sub-pillar: Trust	7	87.92	
3.1.1 Secure Internet servers	8	90.51	●
3.1.2 Cybersecurity	4	99.47	●
3.1.3 Online access to financial account	8	82.82	●
3.1.4 Internet shopping	15	78.87	
2nd sub-pillar: Regulation	7	88.74	
3.2.1 Regulatory quality	15	84.82	
3.2.2 ICT regulatory environment	31	90.00	
3.2.3 Regulation of emerging technologies	11	81.56	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	15	87.33	
3rd sub-pillar: Inclusion	3	86.46	
3.3.1 E-Participation	3	97.68	●
3.3.2 Socioeconomic gap in use of digital payments	13	97.51	●
3.3.3 Availability of local online content	20	86.06	

Indicator	Rank	Score	
1.3.3 Robot density	37	5.15	
1.3.4 Computer software spending	89	10.26	
B. People pillar	22	57.59	
1st sub-pillar: Individuals	31	54.56	
2.1.1 Mobile broadband internet traffic within the country	66	9.45	
2.1.2 ICT skills in the education system	32	67.79	
2.1.3 Use of virtual social networks	30	76.34	
2.1.4 Tertiary enrollment	42	44.77	
2.1.5 Adult literacy rate	4	99.82	●
2.1.6 AI talent concentration	14	29.18	
2nd sub-pillar: Businesses	25	62.83	
2.2.1 Firms with website	19	81.21	
2.2.2 GERD financed by business enterprise	29	62.01	
2.2.3 Knowledge intensive employment	17	71.81	
2.2.4 Annual investment in telecommunication services	93	74.05	○
2.2.5 GERD performed by business enterprise	23	25.06	
3rd sub-pillar: Governments	26	55.38	
2.3.1 Government online services	1	100.00	●
2.3.2 Publication and use of open data	41	38.24	
2.3.3 Government promotion of investment in emerging tech	35	51.86	
2.3.4 R&D expenditure by governments and higher education	22	31.41	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	13	74.48	
3.3.5 Rural gap in use of digital payments	14	76.59	
D. Impact pillar	25	67.80	
1st sub-pillar: Economy	25	42.43	
4.1.1 High-tech and medium-high-tech manufacturing	37	36.63	
4.1.2 High-tech exports	22	37.17	
4.1.3 PCT patent applications	30	18.80	
4.1.4 Domestic market size	102	39.31	○
4.1.5 Prevalence of gig economy	27	63.37	
4.1.6 ICT services exports	8	59.30	●
2nd sub-pillar: Quality of Life	20	81.87	
4.2.1 Happiness	36	74.48	
4.2.2 Freedom to make life choices	22	88.11	
4.2.3 Income inequality	25	81.16	
4.2.4 Healthy life expectancy at birth	33	83.73	
3rd sub-pillar: SDG Contribution	27	79.10	
4.3.1 SDG 3: Good Health and Well-Being	41	80.73	
4.3.2 SDG 4: Quality Education	4	78.15	●
4.3.3 SDG 5: Women's economic opportunity	15	96.46	
4.3.4 SDG 7: Affordable and Clean Energy	104	59.39	○
4.3.5 SDG 11: Sustainable Cities and Communities	35	80.79	

NOTE: ● a strength and ○ a weakness.

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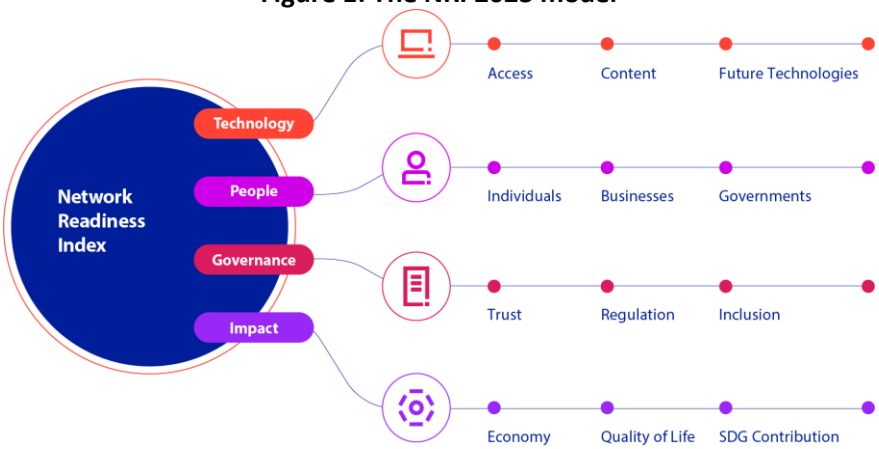
Eswatini

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

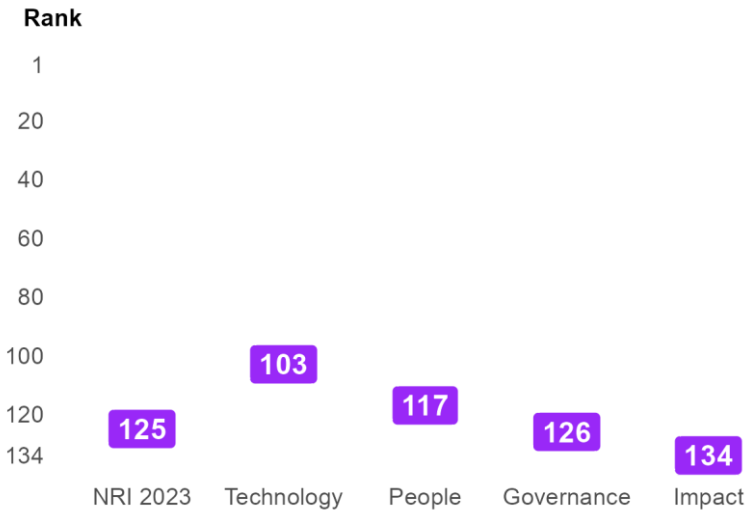
Figure 1: The NRI 2023 model



Global NRI position of Eswatini

Eswatini ranks 125th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Eswatini global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Eswatini relate to Content, Individuals and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Economy and Quality of Life sub-pillars.

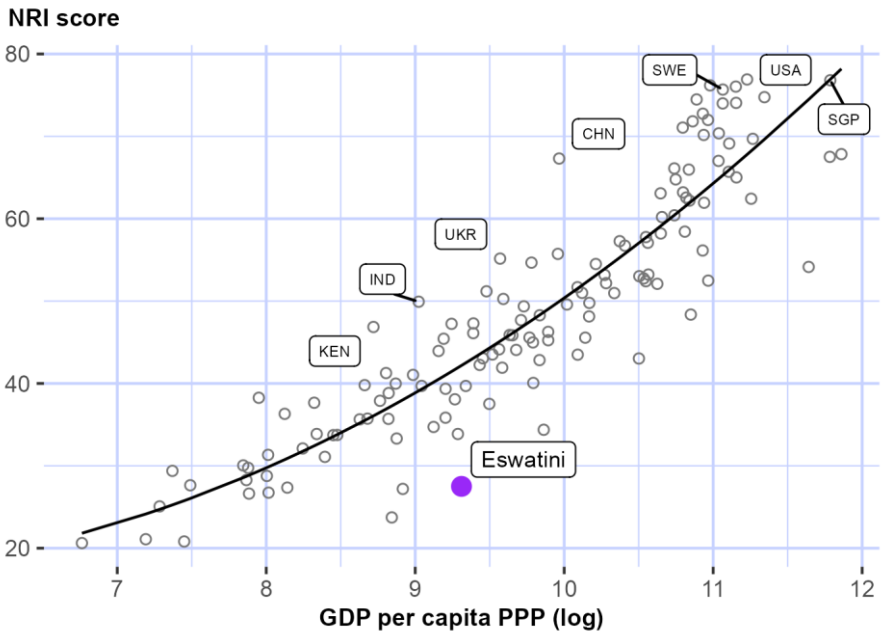
Table 1: Eswatini rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	76	SDG Contribution	119
Individuals	97	Future Technologies	122
Access	109	Regulation	126
Businesses	114	Governments	127
Trust	114	Economy	134
Inclusion	119	Quality of Life	134

NRI score and income

Figure 3 shows the position of Eswatini in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Eswatini is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Eswatini belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Eswatini is ranked 37th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Content.

Africa

Eswatini is ranked 23rd within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Technology. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Access, Content and Individuals.

Figure 4: Performance of Eswatini against its income group and region, overall and by pillar

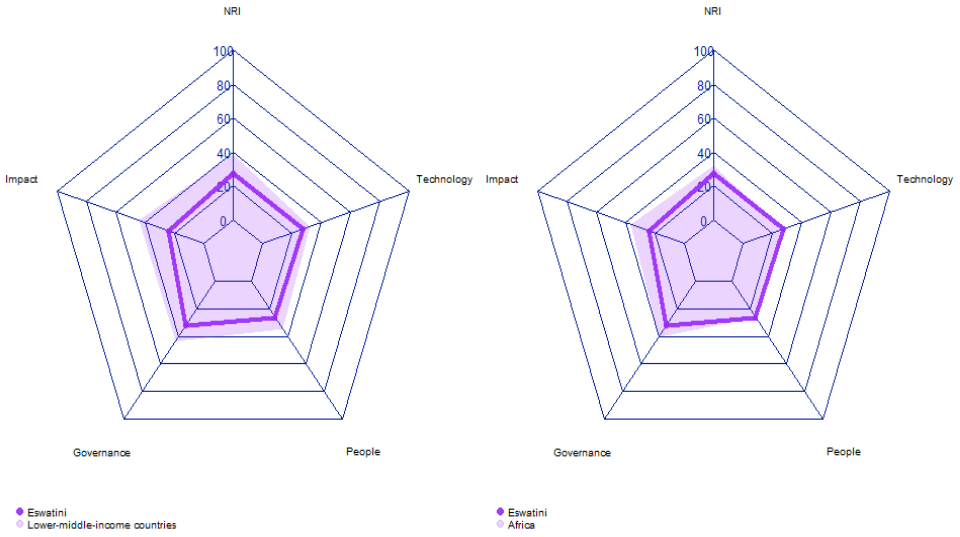


Table 2: Eswatini scores vs. averages of its income group and region, overall and by pillar

Dimension	Eswatini	Lower-middle-income countries	Africa
NRI	27.50	38.41	32.14
Technology	27.80	32.12	25.14
People	26.19	34.38	26.19
Governance	32.00	43.27	40.44
Impact	24.04	43.89	36.77

Strongest and weakest indicators

The indicators where Eswatini performs particularly well include 1.2.3 Mobile apps development, 2.2.1 Firms with website, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 4.2.4 Healthy life expectancy at birth, 1.3.2 Investment in emerging technologies, 3.3.1 E-Participation, 4.1.4 Domestic market size, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Highlight of Strengths and Opportunities for Eswatini

Strongest indicators	Rank	Weakest indicators	Rank
1.2.3 Mobile apps development	6	4.1.3 PCT patent applications	99
2.2.1 Firms with website	47	2.3.2 Publication and use of open data	105
1.1.6 Internet access in schools	49	3.2.4 E-commerce legislation	129
1.1.4 Population covered by at least a 3G mobile network	56	1.3.2 Investment in emerging technologies	130
3.3.2 Socioeconomic gap in use of digital payments	57	3.3.1 E-Participation	130
2.2.2 GERD financed by business enterprise	63	4.1.4 Domestic market size	130
2.1.5 Adult literacy rate	67	4.3.3 SDG 5: Women's economic opportunity	130
2.2.3 Knowledge intensive employment	79	4.2.4 Healthy life expectancy at birth	132
4.3.4 SDG 7: Affordable and Clean Energy	81	1.1.5 International Internet bandwidth	134
3.1.4 Internet shopping	93		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Eswatini

Network Readiness Index Rank: 125 (out of 134) Score: 27.50

Pillar/sub-pillar	Rank	Score
A. Technology pillar	103	27.80
1st sub-pillar: Access	109	44.97
2nd sub-pillar: Content	76	21.17
3rd sub-pillar: Future Technologies	122	17.26
B. People pillar	117	26.19
1st sub-pillar: Individuals	97	37.57
2nd sub-pillar: Businesses	114	28.43
3rd sub-pillar: Governments	127	12.56

Pillar/sub-pillar	Rank	Score
C. Governance pillar	126	32.00
1st sub-pillar: Trust	114	21.17
2nd sub-pillar: Regulation	126	36.47
3rd sub-pillar: Inclusion	119	38.35
D. Impact pillar	134	24.04
1st sub-pillar: Economy	134	6.56
2nd sub-pillar: Quality of Life	134	20.29
3rd sub-pillar: SDG Contribution	119	45.25

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	103	27.80	
1st sub-pillar: Access	109	44.97	
1.1.1 Mobile tariffs	111	29.66	
1.1.2 Handset prices	100	32.39	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	56	99.71	●
1.1.5 International Internet bandwidth	134	0.00	○
1.1.6 Internet access in schools	49	63.11	●
2nd sub-pillar: Content	76	21.17	
1.2.1 GitHub commits	116	0.75	
1.2.2 Internet domain registrations	103	0.73	
1.2.3 Mobile apps development	6	83.10	●
1.2.4 AI scientific publications	126	0.11	
3rd sub-pillar: Future Technologies	122	17.26	
1.3.1 Adoption of emerging technologies	115	22.76	
1.3.2 Investment in emerging technologies	130	11.75	○

Indicator	Rank	Score	
C. Governance pillar	126	32.00	
1st sub-pillar: Trust	114	21.17	
3.1.1 Secure Internet servers	101	37.37	
3.1.2 Cybersecurity	120	16.79	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	93	9.36	●
2nd sub-pillar: Regulation	126	36.47	
3.2.1 Regulatory quality	103	36.44	
3.2.2 ICT regulatory environment	114	62.00	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	129	0.00	○
3.2.5 Privacy protection by law content	102	47.42	
3rd sub-pillar: Inclusion	119	38.35	
3.3.1 E-Participation	130	12.79	○
3.3.2 Socioeconomic gap in use of digital payments	57	80.87	●
3.3.3 Availability of local online content	126	21.39	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	117	26.19	
1st sub-pillar: Individuals	97	37.57	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	105	24.63	
2.1.4 Tertiary enrollment	121	2.72	
2.1.5 Adult literacy rate	67	85.36	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	114	28.43	
2.2.1 Firms with website	47	61.23	●
2.2.2 GERD financed by business enterprise	63	27.63	●
2.2.3 Knowledge intensive employment	79	24.83	●
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	89	0.03	
3rd sub-pillar: Governments	127	12.56	
2.3.1 Government online services	125	25.29	
2.3.2 Publication and use of open data	105	0.00	○
2.3.3 Government promotion of investment in emerging tech	104	20.31	
2.3.4 R&D expenditure by governments and higher education	83	4.64	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	134	24.04	
1st sub-pillar: Economy	134	6.56	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	124	0.37	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	130	21.20	○
4.1.5 Prevalence of gig economy	120	10.17	
4.1.6 ICT services exports	126	1.08	
2nd sub-pillar: Quality of Life	134	20.29	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	113	21.11	
4.2.4 Healthy life expectancy at birth	132	19.48	○
3rd sub-pillar: SDG Contribution	119	45.25	
4.3.1 SDG 3: Good Health and Well-Being	100	48.90	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	130	23.89	○
4.3.4 SDG 7: Affordable and Clean Energy	81	67.85	●
4.3.5 SDG 11: Sustainable Cities and Communities	111	40.37	

NOTE: ● a strength and ○ a weakness.

Sources

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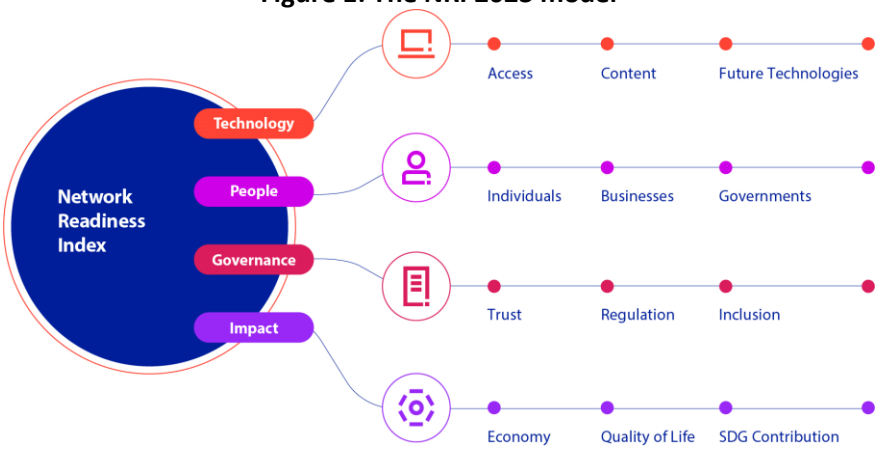
Ethiopia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

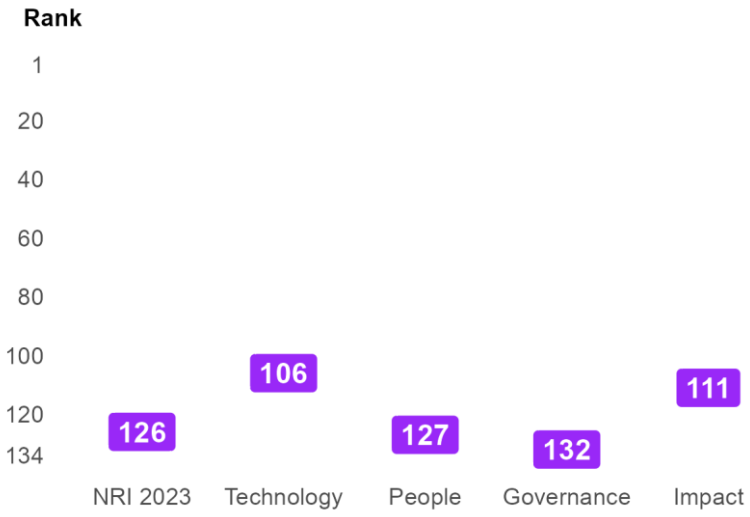
Figure 1: The NRI 2023 model



Global NRI position of Ethiopia

Ethiopia ranks 126th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Ethiopia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ethiopia relate to Economy, Content and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Individuals and Trust sub-pillars.

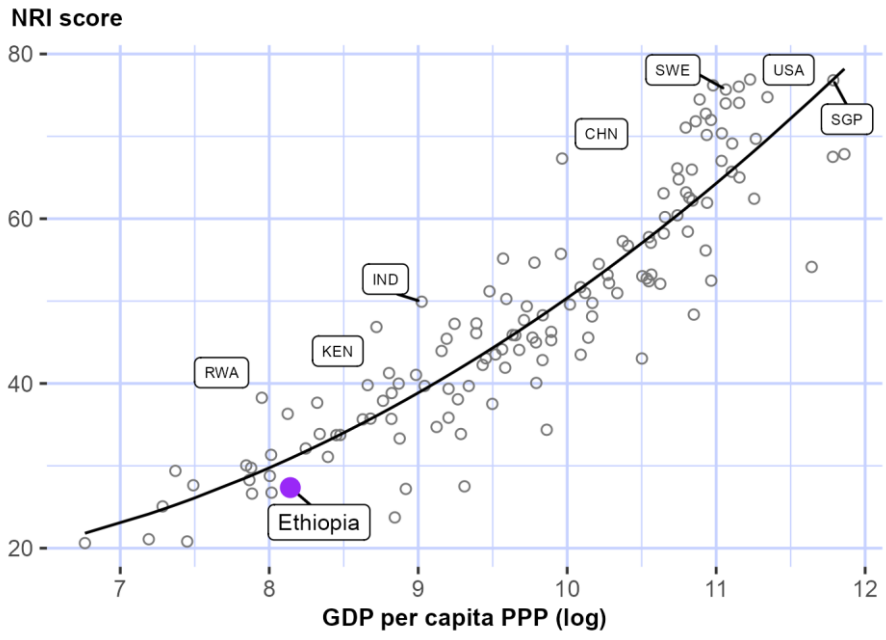
Table 1: Ethiopia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	71	Inclusion	123
Content	87	Businesses	126
Access	107	SDG Contribution	126
Quality of Life	112	Regulation	130
Governments	113	Individuals	132
Future Technologies	118	Trust	133

NRI score and income

Figure 3 shows the position of Ethiopia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ethiopia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Ethiopia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Ethiopia is ranked 7th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, Technology and Impact. At the sub-pillar level, it outperforms low-income countries in five of the twelve sub-pillars: Access, Content, Governments, Economy and Quality of Life.

Africa

Ethiopia is ranked 24th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: Technology and Impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Access, Content, Economy and Quality of Life.

Figure 4: Performance of Ethiopia against its income group and region, overall and by pillar

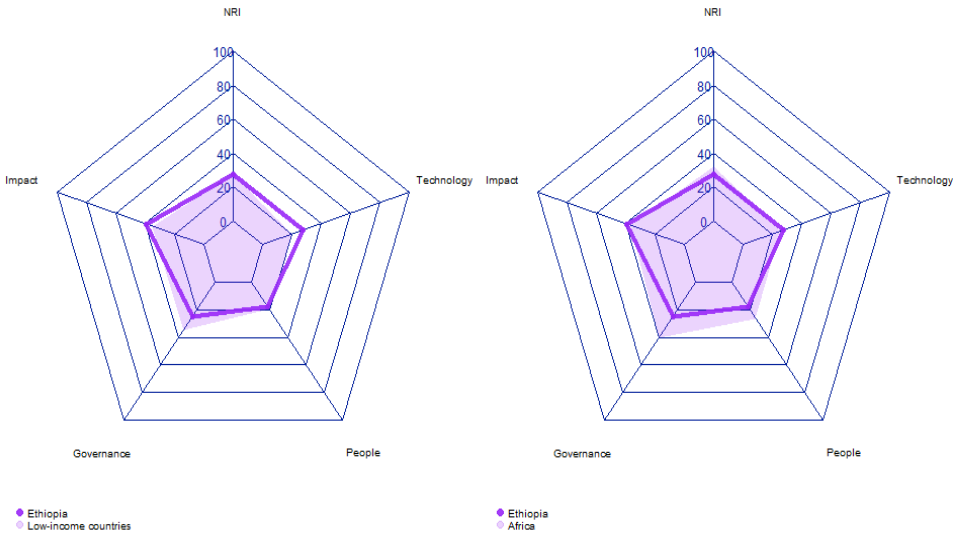


Table 2: Ethiopia scores vs. averages of its income group and region, overall and by pillar

Dimension	Ethiopia	Low-income countries	Africa
NRI	27.36	27.19	32.14
Technology	27.58	19.75	25.14
People	17.80	19.57	26.19
Governance	24.76	34.61	40.44
Impact	39.28	34.82	36.77

Strongest and weakest indicators

The indicators where Ethiopia performs particularly well include 1.2.4 AI scientific publications, 4.1.2 High-tech exports, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.2.2 Internet domain registrations, 3.1.1 Secure Internet servers, and 3.2.2 ICT regulatory environment.

Table 3: Highlight of Strengths and Opportunities for Ethiopia

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	35	3.1.3 Online access to financial account	126
4.1.2 High-tech exports	40	1.3.4 Computer software spending	128
4.2.3 Income inequality	49	2.1.3 Use of virtual social networks	130
4.1.4 Domestic market size	55	4.3.1 SDG 3: Good Health and Well-Being	130
2.1.1 Mobile broadband internet traffic within the country	80	3.2.2 ICT regulatory environment	131
4.1.6 ICT services exports	80	3.1.1 Secure Internet servers	132
2.3.4 R&D expenditure by governments and higher education	82	1.2.2 Internet domain registrations	134
3.3.5 Rural gap in use of digital payments	90		
1.1.5 International Internet bandwidth	92		
4.3.3 SDG 5: Women's economic opportunity	96		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Ethiopia

Network Readiness Index Rank: 126 (out of 134) Score: 27.36

Pillar/sub-pillar	Rank	Score
A. Technology pillar	106	27.58
1st sub-pillar: Access	107	46.45
2nd sub-pillar: Content	87	18.27
3rd sub-pillar: Future Technologies	118	18.01
B. People pillar	127	17.80
1st sub-pillar: Individuals	132	12.02
2nd sub-pillar: Businesses	126	21.08
3rd sub-pillar: Governments	113	20.29

Pillar/sub-pillar	Rank	Score
C. Governance pillar	132	24.76
1st sub-pillar: Trust	133	10.22
2nd sub-pillar: Regulation	130	32.40
3rd sub-pillar: Inclusion	123	31.67
D. Impact pillar	111	39.28
1st sub-pillar: Economy	71	26.61
2nd sub-pillar: Quality of Life	112	49.07
3rd sub-pillar: SDG Contribution	126	42.17

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	106	27.58	
1st sub-pillar: Access	107	46.45	
1.1.1 Mobile tariffs	103	36.59	
1.1.2 Handset prices	120	19.80	
1.1.3 FTTH/building Internet subscriptions	105	11.53	
1.1.4 Population covered by at least a 3G mobile network	100	97.74	
1.1.5 International Internet bandwidth	92	66.60	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	87	18.27	
1.2.1 GitHub commits	111	1.18	
1.2.2 Internet domain registrations	134	0.00	○
1.2.3 Mobile apps development	94	56.82	
1.2.4 AI scientific publications	35	15.09	•
3rd sub-pillar: Future Technologies	118	18.01	
1.3.1 Adoption of emerging technologies	113	25.79	
1.3.2 Investment in emerging technologies	102	28.25	

Indicator	Rank	Score	
C. Governance pillar	132	24.76	
1st sub-pillar: Trust	133	10.22	
3.1.1 Secure Internet servers	132	13.34	○
3.1.2 Cybersecurity	110	26.47	
3.1.3 Online access to financial account	126	0.00	○
3.1.4 Internet shopping	125	1.06	
2nd sub-pillar: Regulation	130	32.40	
3.2.1 Regulatory quality	122	28.64	
3.2.2 ICT regulatory environment	131	22.35	○
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	121	33.33	
3.2.5 Privacy protection by law content	107	45.26	
3rd sub-pillar: Inclusion	123	31.67	
3.3.1 E-Participation	125	17.45	
3.3.2 Socioeconomic gap in use of digital payments	119	38.94	
3.3.3 Availability of local online content	112	30.53	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	128	0.00	○
B. People pillar	127	17.80	
1st sub-pillar: Individuals	132	12.02	
2.1.1 Mobile broadband internet traffic within the country	80	6.38	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	130	2.35	○
2.1.4 Tertiary enrollment	111	5.20	
2.1.5 Adult literacy rate	101	34.15	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	126	21.08	
2.2.1 Firms with website	90	29.23	
2.2.2 GERD financed by business enterprise	90	1.87	
2.2.3 Knowledge intensive employment	121	2.68	
2.2.4 Annual investment in telecommunication services	107	71.49	
2.2.5 GERD performed by business enterprise	84	0.14	
3rd sub-pillar: Governments	113	20.29	
2.3.1 Government online services	117	30.70	
2.3.2 Publication and use of open data	77	16.18	
2.3.3 Government promotion of investment in emerging tech	92	29.51	
2.3.4 R&D expenditure by governments and higher education	82	4.76	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	102	21.26	
3.3.5 Rural gap in use of digital payments	90	50.20	●
D. Impact pillar	111	39.28	
1st sub-pillar: Economy	71	26.61	
4.1.1 High-tech and medium-high-tech manufacturing	79	15.25	
4.1.2 High-tech exports	40	23.51	●
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	55	56.64	●
4.1.5 Prevalence of gig economy	96	27.91	
4.1.6 ICT services exports	80	9.72	●
2nd sub-pillar: Quality of Life	112	49.07	
4.2.1 Happiness	120	23.73	
4.2.2 Freedom to make life choices	114	49.78	
4.2.3 Income inequality	49	70.35	●
4.2.4 Healthy life expectancy at birth	104	52.43	
3rd sub-pillar: SDG Contribution	126	42.17	
4.3.1 SDG 3: Good Health and Well-Being	130	16.26	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	96	67.26	●
4.3.4 SDG 7: Affordable and Clean Energy	123	42.99	
4.3.5 SDG 11: Sustainable Cities and Communities	108	42.15	

NOTE: ● a strength and ○ a weakness.

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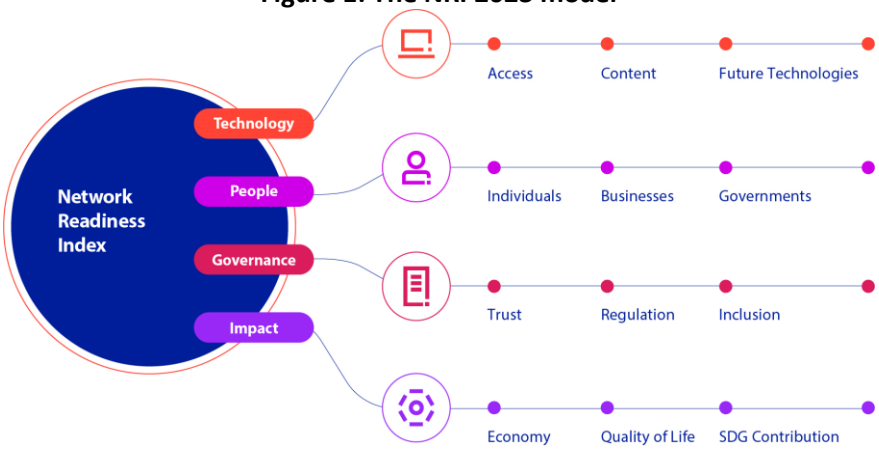
Finland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

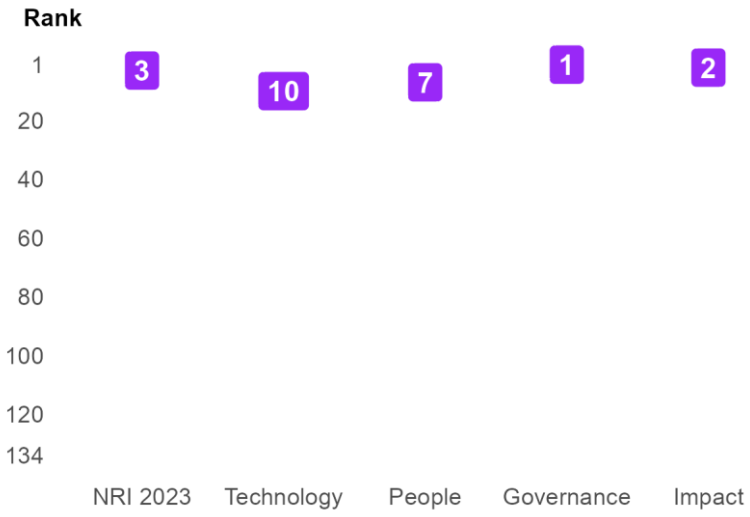
Figure 1: The NRI 2023 model



Global NRI position of Finland

Finland ranks 3rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Finland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Finland relate to Quality of Life, Regulation and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Content and SDG Contribution sub-pillars.

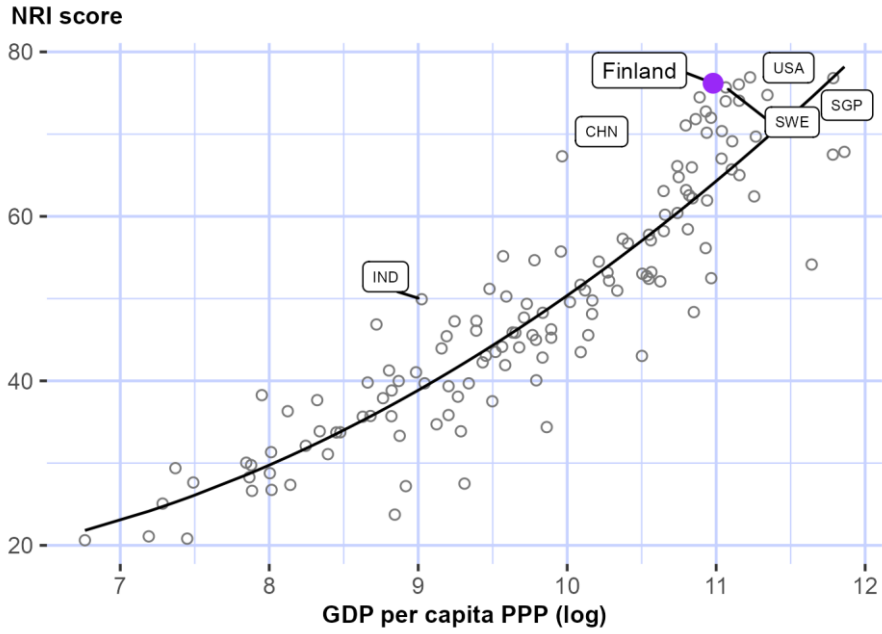
Table 1: Finland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	1	Governments	7
Regulation	2	Businesses	8
Trust	6	Access	13
Inclusion	6	Individuals	13
Economy	6	Content	15
Future Technologies	7	SDG Contribution	19

NRI score and income

Figure 3 shows the position of Finland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Finland is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Finland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Finland is ranked 3rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Europe

Finland is ranked 1st within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Finland against its income group and region, overall and by pillar

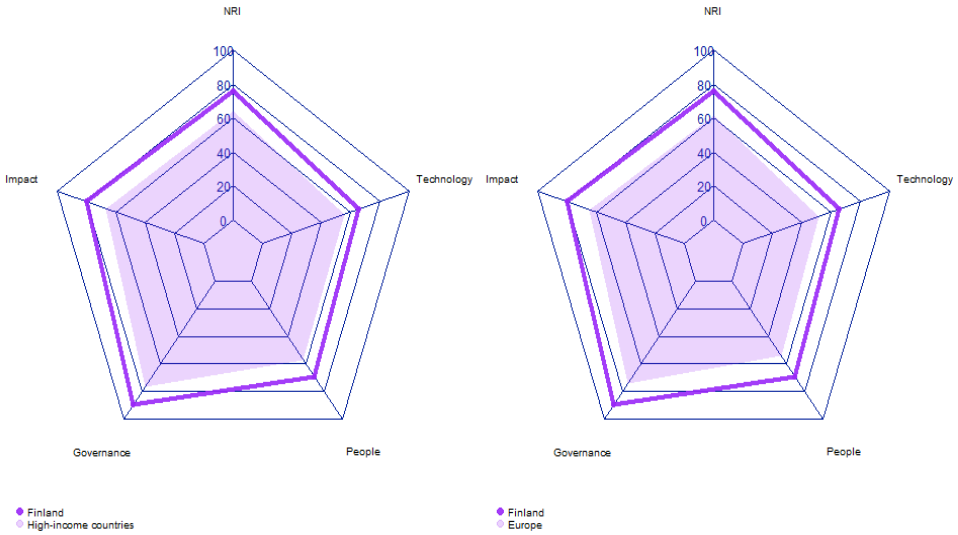


Table 2: Finland scores vs. averages of its income group and region, overall and by pillar

Dimension	Finland	High-income countries	Europe
NRI	76.19	64.07	61.25
Technology	65.50	55.76	51.90
People	69.42	56.99	54.16
Governance	89.94	76.81	74.33
Impact	79.90	66.73	64.61

Strongest and weakest indicators

The indicators where Finland performs particularly well include 1.1.6 Internet access in schools, 2.1.2 ICT skills in the education system, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 1.1.5 International Internet bandwidth, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Finland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.1.4 Domestic market size	57
2.1.2 ICT skills in the education system	1	1.1.3 FTTH/building Internet subscriptions	59
2.2.1 Firms with website	1	1.1.5 International Internet bandwidth	86
3.2.4 E-commerce legislation	1	4.3.4 SDG 7: Affordable and Clean Energy	99
4.1.6 ICT services exports	1		
4.2.1 Happiness	1		
2.3.1 Government online services	2		
3.2.3 Regulation of emerging technologies	2		
1.3.1 Adoption of emerging technologies	3		
3.1.3 Online access to financial account	3		
3.2.1 Regulatory quality	3		
3.2.2 ICT regulatory environment	3		
4.2.2 Freedom to make life choices	3		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Finland

Network Readiness Index — Rank: 3 (out of 134) — Score: 76.19

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	10	65.50	C. Governance pillar	1	89.94
1st sub-pillar: Access	13	78.60	1st sub-pillar: Trust	6	90.25
2nd sub-pillar: Content	15	51.55	2nd sub-pillar: Regulation	2	93.75
3rd sub-pillar: Future Technologies	7	66.35	3rd sub-pillar: Inclusion	6	85.80
B. People pillar	7	69.42	D. Impact pillar	2	79.90
1st sub-pillar: Individuals	13	60.11	1st sub-pillar: Economy	6	61.61
2nd sub-pillar: Businesses	8	75.08	2nd sub-pillar: Quality of Life	1	94.26
3rd sub-pillar: Governments	7	73.08	3rd sub-pillar: SDG Contribution	19	83.82

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	10	65.50		**C. Governance pillar**	1	89.94	
1st sub-pillar: Access	13	78.60		*1st sub-pillar: Trust*	6	90.25	
1.1.1 Mobile tariffs	17	84.75		3.1.1 Secure Internet servers	9	90.25	
1.1.2 Handset prices	8	88.47		3.1.2 Cybersecurity	29	95.71	
1.1.3 FTTH/building Internet subscriptions	59	30.28	○	3.1.3 Online access to financial account	3	93.95	●
1.1.4 Population covered by at least a 3G mobile network	22	100.00		3.1.4 Internet shopping	13	81.10	
1.1.5 International Internet bandwidth	86	68.07	○	*2nd sub-pillar: Regulation*	2	93.75	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	3	92.48	●
2nd sub-pillar: Content	15	51.55		3.2.2 ICT regulatory environment	3	97.65	●
1.2.1 GitHub commits	10	75.17		3.2.3 Regulation of emerging technologies	2	94.55	●
1.2.2 Internet domain registrations	23	39.49		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	9	81.17		3.2.5 Privacy protection by law content	22	84.09	
1.2.4 AI scientific publications	46	10.37		*3rd sub-pillar: Inclusion*	6	85.80	
3rd sub-pillar: Future Technologies	7	66.35		3.3.1 E-Participation	6	95.34	
1.3.1 Adoption of emerging technologies	3	96.95	●	3.3.2 Socioeconomic gap in use of digital payments	22	95.97	
1.3.2 Investment in emerging technologies	5	87.75		3.3.3 Availability of local online content	13	90.14	
1.3.3 Robot density	20	22.90		3.3.4 Gender gap in Internet use	34	70.84	

Indicator	Rank	Score	
1.3.4 Computer software spending	14	57.79	
B. People pillar	7	69.42	
1st sub-pillar: Individuals	13	60.11	
2.1.1 Mobile broadband internet traffic within the country	28	28.99	
2.1.2 ICT skills in the education system	1	100.00	●
2.1.3 Use of virtual social networks	20	78.79	
2.1.4 Tertiary enrollment	7	62.32	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	13	30.47	
2nd sub-pillar: Businesses	8	75.08	
2.2.1 Firms with website	1	100.00	●
2.2.2 GERD financed by business enterprise	20	69.22	
2.2.3 Knowledge intensive employment	15	72.77	
2.2.4 Annual investment in telecommunication services	49	80.69	
2.2.5 GERD performed by business enterprise	11	52.70	
3rd sub-pillar: Governments	7	73.08	
2.3.1 Government online services	2	98.15	●
2.3.2 Publication and use of open data	23	57.35	
2.3.3 Government promotion of investment in emerging tech	7	83.09	
2.3.4 R&D expenditure by governments and higher education	10	53.71	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	13	76.73	
D. Impact pillar	2	79.90	
1st sub-pillar: Economy	6	61.61	
4.1.1 High-tech and medium-high-tech manufacturing	28	47.24	
4.1.2 High-tech exports	46	18.43	
4.1.3 PCT patent applications	5	83.21	
4.1.4 Domestic market size	57	55.97	○
4.1.5 Prevalence of gig economy	23	64.83	
4.1.6 ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life	1	94.26	
4.2.1 Happiness	1	100.00	●
4.2.2 Freedom to make life choices	3	97.20	●
4.2.3 Income inequality	10	90.20	
4.2.4 Healthy life expectancy at birth	19	89.62	
3rd sub-pillar: SDG Contribution	19	83.82	
4.3.1 SDG 3: Good Health and Well-Being	22	89.99	
4.3.2 SDG 4: Quality Education	8	74.44	
4.3.3 SDG 5: Women's economic opportunity	15	96.46	
4.3.4 SDG 7: Affordable and Clean Energy	99	61.34	○
4.3.5 SDG 11: Sustainable Cities and Communities	5	96.88	

NOTE: ● a strength and ○ a weakness.

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France

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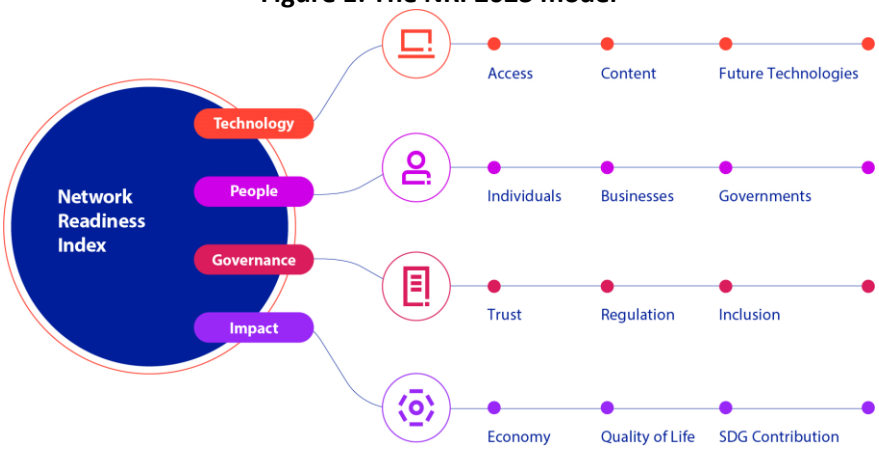
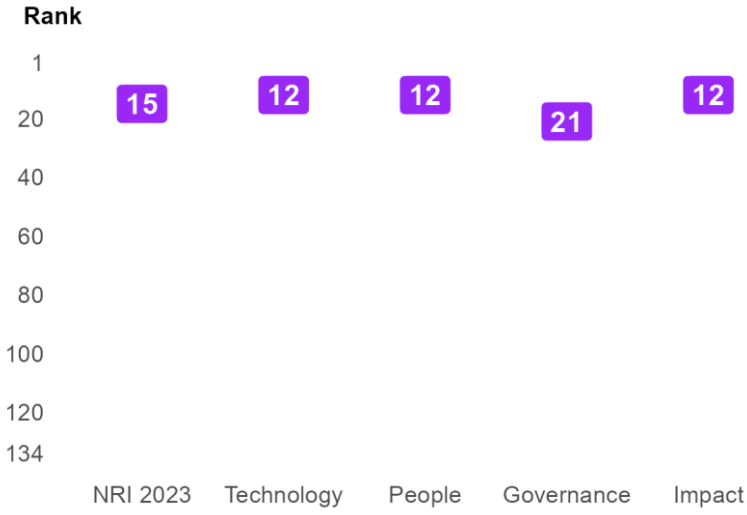
Figure 1: The NRI 2023 model



Global NRI position of France

France ranks 15th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology People and Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: France global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of France relate to Governments, Access and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Trust and Individuals sub-pillars.

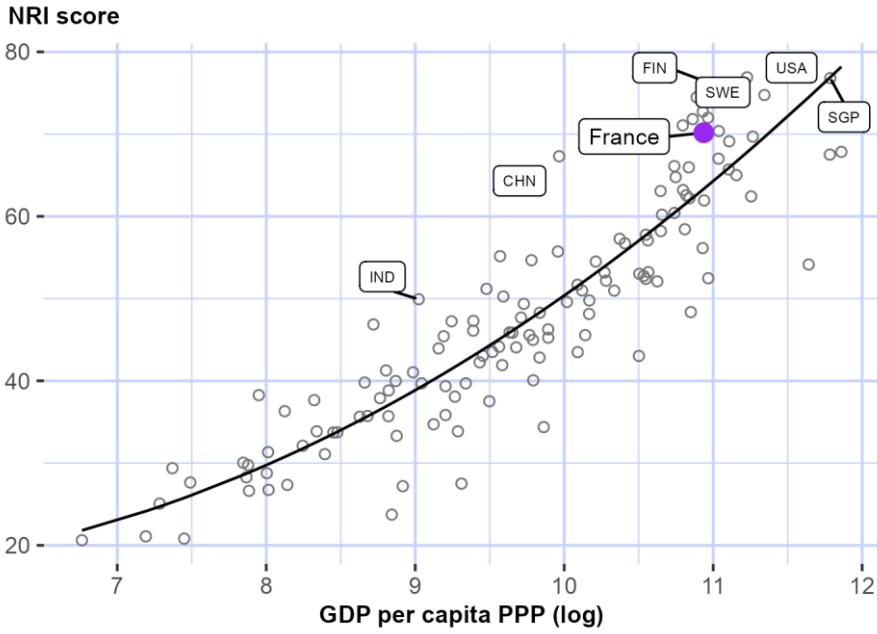
Table 1: France rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	6	Regulation	17
Access	9	Content	19
SDG Contribution	14	Quality of Life	22
Future Technologies	15	Inclusion	23
Businesses	16	Trust	26
Economy	16	Individuals	47

NRI score and income

Figure 3 shows the position of France in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, France is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). France belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

France is ranked 15th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

France is ranked 9th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of France against its income group and region, overall and by pillar

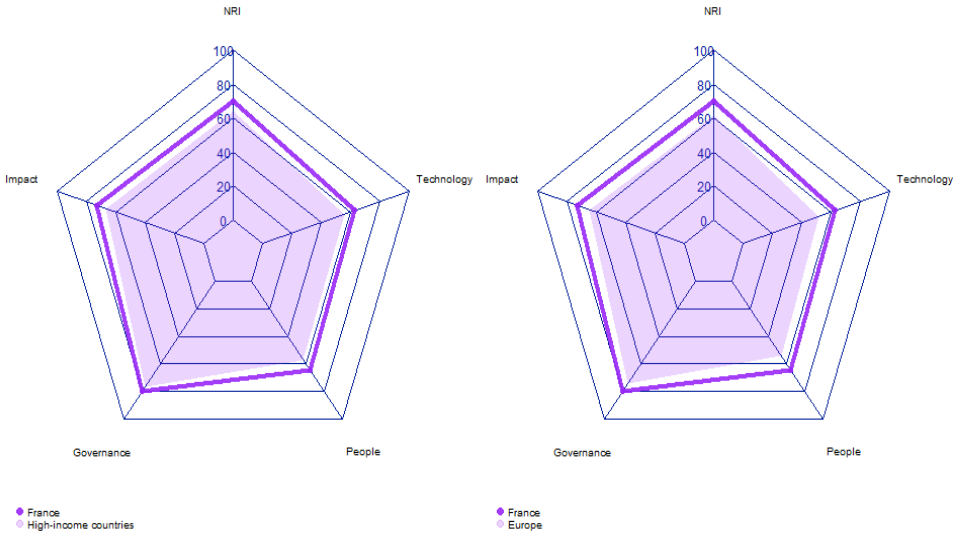


Table 2: France scores vs. averages of its income group and region, overall and by pillar

Dimension	France	High-income countries	Europe
NRI	70.17	64.07	61.25
Technology	62.96	55.76	51.90
People	64.68	56.99	54.16
Governance	80.12	76.81	74.33
Impact	72.92	66.73	64.61

Strongest and weakest indicators

The indicators where France performs particularly well include 3.2.4 E-commerce legislation, 4.3.3 SDG 5: Women's economic opportunity, and 2.3.2 Publication and use of open data (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.1.4 Population covered by at least a 3G mobile network, and 3.3.4 Gender gap in Internet use.

Table 3: Highlight of Strengths and Opportunities for France

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	18
4.3.3 SDG 5: Women's economic opportunity	1	3.3.4 Gender gap in Internet use	46
2.3.2 Publication and use of open data	4	1.1.4 Population covered by at least a 3G mobile network	57
2.2.4 Annual investment in telecommunication services	6	4.2.2 Freedom to make life choices	73
1.3.4 Computer software spending	7		
3.2.2 ICT regulatory environment	7		
4.2.4 Healthy life expectancy at birth	8		
1.1.2 Handset prices	9		
3.2.3 Regulation of emerging technologies	9		
2.1.1 Mobile broadband internet traffic within the country	10		
4.1.4 Domestic market size	10		
1.2.4 AI scientific publications	11		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: France

Network Readiness Index Rank: 15 (out of 134) Score: 70.17

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	12	62.96	C. Governance pillar	21	80.12
1st sub-pillar: Access	9	80.33	1st sub-pillar: Trust	26	75.58
2nd sub-pillar: Content	19	48.68	2nd sub-pillar: Regulation	17	85.42
3rd sub-pillar: Future Technologies	15	59.87	3rd sub-pillar: Inclusion	23	79.35
B. People pillar	12	64.68	D. Impact pillar	12	72.92
1st sub-pillar: Individuals	47	51.63	1st sub-pillar: Economy	16	52.75
2nd sub-pillar: Businesses	16	68.68	2nd sub-pillar: Quality of Life	22	81.05
3rd sub-pillar: Governments	6	73.74	3rd sub-pillar: SDG Contribution	14	84.95

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	12	62.96		**C. Governance pillar**	21	80.12	
1st sub-pillar: Access	9	80.33		*1st sub-pillar: Trust*	26	75.58	
1.1.1 Mobile tariffs	47	71.87		3.1.1 Secure Internet servers	21	83.74	
1.1.2 Handset prices	9	84.30	•	3.1.2 Cybersecurity	14	97.56	
1.1.3 FTTH/building Internet subscriptions	18	48.76		3.1.3 Online access to financial account	21	60.62	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	○	3.1.4 Internet shopping	31	60.40	
1.1.5 International Internet bandwidth	30	78.39		*2nd sub-pillar: Regulation*	17	85.42	
1.1.6 Internet access in schools	31	99.00		3.2.1 Regulatory quality	24	77.51	
2nd sub-pillar: Content	19	48.68		3.2.2 ICT regulatory environment	7	95.88	•
1.2.1 GitHub commits	26	44.96		3.2.3 Regulation of emerging technologies	9	82.08	•
1.2.2 Internet domain registrations	24	37.59		3.2.4 E-commerce legislation	1	100.00	•
1.2.3 Mobile apps development	19	76.17		3.2.5 Privacy protection by law content	49	71.63	
1.2.4 AI scientific publications	11	36.01	•	*3rd sub-pillar: Inclusion*	23	79.35	
3rd sub-pillar: Future Technologies	15	59.87		3.3.1 E-Participation	37	70.93	
1.3.1 Adoption of emerging technologies	14	83.82		3.3.2 Socioeconomic gap in use of digital payments	17	96.60	
1.3.2 Investment in emerging technologies	22	67.25		3.3.3 Availability of local online content	28	83.65	

Indicator	Rank	Score	
1.3.3 Robot density	18	24.54	
1.3.4 Computer software spending	7	63.87	●
B. People pillar	12	64.68	
1st sub-pillar: Individuals	47	51.63	
2.1.1 Mobile broadband internet traffic within the country	10	45.27	●
2.1.2 ICT skills in the education system	28	68.69	
2.1.3 Use of virtual social networks	31	76.05	
2.1.4 Tertiary enrollment	40	44.97	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	18	23.18	○
2nd sub-pillar: Businesses	16	68.68	
2.2.1 Firms with website	32	70.47	
2.2.2 GERD financed by business enterprise	19	70.22	
2.2.3 Knowledge intensive employment	14	73.29	
2.2.4 Annual investment in telecommunication services	6	92.23	●
2.2.5 GERD performed by business enterprise	17	37.18	
3rd sub-pillar: Governments	6	73.74	
2.3.1 Government online services	20	86.38	
2.3.2 Publication and use of open data	4	94.12	●
2.3.3 Government promotion of investment in emerging tech	12	74.77	
2.3.4 R&D expenditure by governments and higher education	17	39.70	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	46	69.43	○
3.3.5 Rural gap in use of digital payments	18	76.15	
D. Impact pillar	12	72.92	
1st sub-pillar: Economy	16	52.75	
4.1.1 High-tech and medium-high-tech manufacturing	12	61.20	
4.1.2 High-tech exports	20	39.52	
4.1.3 PCT patent applications	15	49.65	
4.1.4 Domestic market size	10	79.64	●
4.1.5 Prevalence of gig economy	21	66.86	
4.1.6 ICT services exports	50	19.63	
2nd sub-pillar: Quality of Life	22	81.05	
4.2.1 Happiness	26	79.26	
4.2.2 Freedom to make life choices	73	70.52	○
4.2.3 Income inequality	25	81.16	
4.2.4 Healthy life expectancy at birth	8	93.27	●
3rd sub-pillar: SDG Contribution	14	84.95	
4.3.1 SDG 3: Good Health and Well-Being	20	91.09	
4.3.2 SDG 4: Quality Education	25	65.14	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	49	75.58	
4.3.5 SDG 11: Sustainable Cities and Communities	14	92.93	

NOTE: ● a strength and ○ a weakness.

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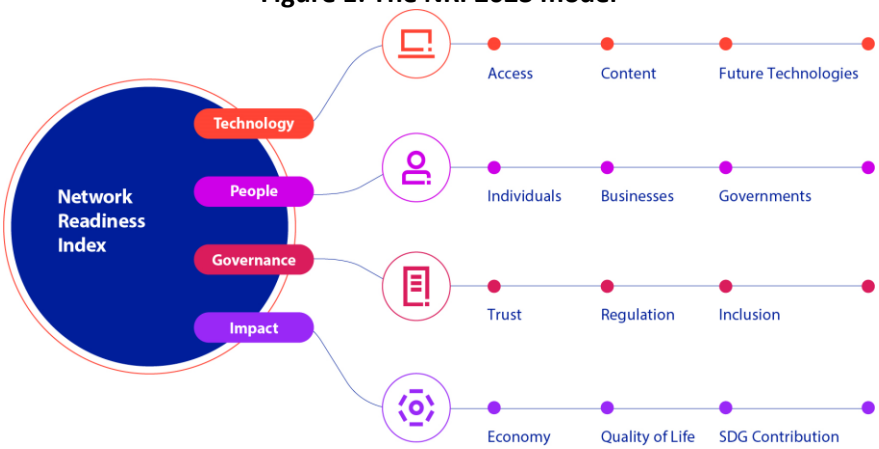
Gambia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

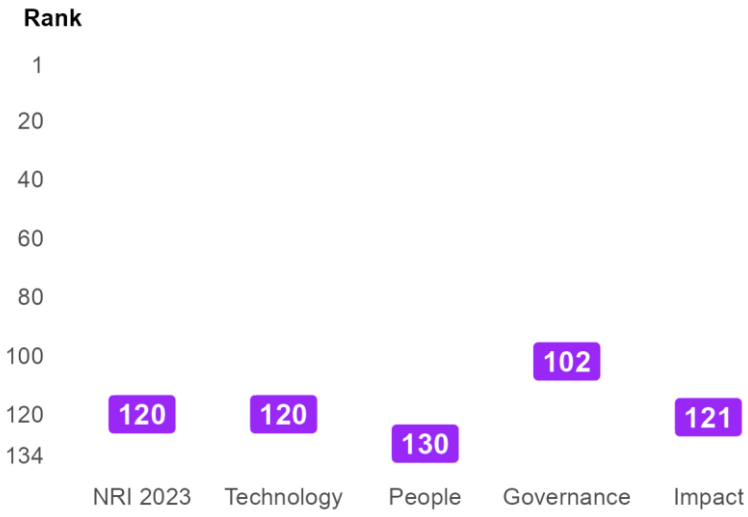
Figure 1: The NRI 2023 model



Global NRI position of Gambia

Gambia ranks 120th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Gambia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Gambia relate to Regulation, Future Technologies and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Content sub-pillars.

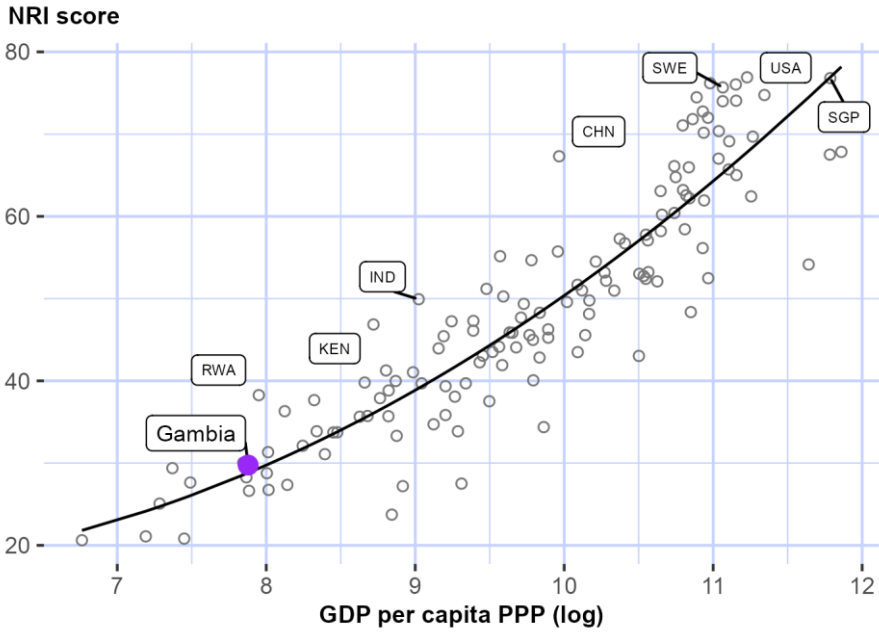
Table 1: Gambia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	50	Individuals	125
Future Technologies	57	Businesses	125
SDG Contribution	109	Economy	125
Inclusion	112	Governments	126
Quality of Life	119	Access	127
Trust	122	Content	132

NRI score and income

Figure 3 shows the position of Gambia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Gambia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Gambia belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Gambia is ranked 3rd in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms low-income countries in five of the twelve sub-pillars: Future Technologies, Individuals, Regulation, Inclusion and SDG Contribution.

Africa

Gambia is ranked 18th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Future Technologies, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Gambia against its income group and region, overall and by pillar

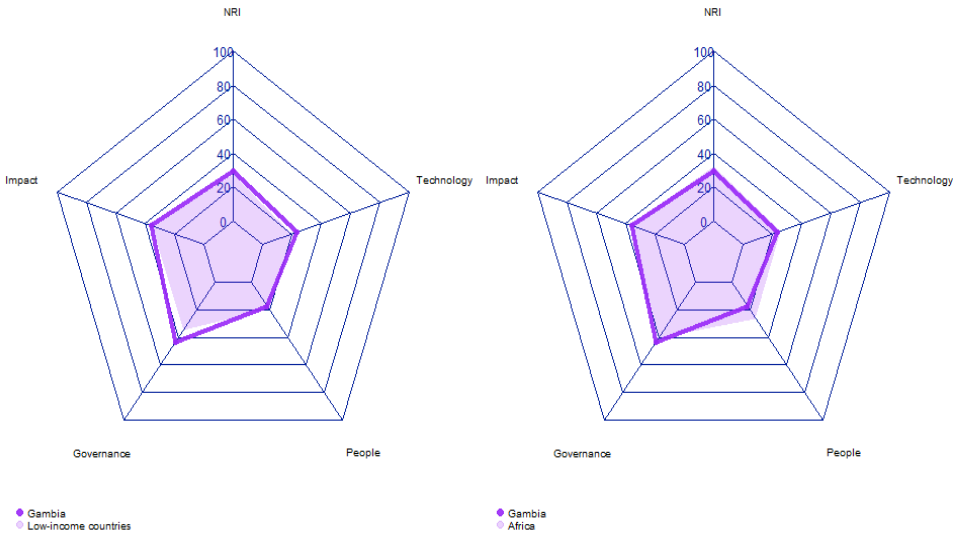


Table 2: Gambia scores vs. averages of its income group and region, overall and by pillar

Dimension	Gambia	Low-income countries	Africa
NRI	29.76	27.19	32.14
Technology	23.04	19.75	25.14
People	17.26	19.57	26.19
Governance	43.30	34.61	40.44
Impact	35.43	34.82	36.77

Strongest and weakest indicators

The indicators where Gambia performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 2.3.1 Government online services, 4.1.4 Domestic market size, and 2.1.4 Tertiary enrollment.

Table 3: Highlight of Strengths and Opportunities for Gambia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	91
3.2.5 Privacy protection by law content	18	4.1.3 PCT patent applications	99
4.3.4 SDG 7: Affordable and Clean Energy	31	1.1.3 FTTH/building Internet subscriptions	125
4.1.5 Prevalence of gig economy	71	1.1.5 International Internet bandwidth	128
4.2.3 Income inequality	73	1.1.1 Mobile tariffs	130
1.3.2 Investment in emerging technologies	77	1.1.2 Handset prices	130
3.3.2 Socioeconomic gap in use of digital payments	78	2.1.4 Tertiary enrollment	131
2.3.3 Government promotion of investment in emerging technologies	86	2.3.1 Government online services	132
4.1.6 ICT services exports	87	4.1.4 Domestic market size	132
3.2.2 ICT regulatory environment	96		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Gambia

Network Readiness Index Rank: 120 (out of 134) Score: 29.76

Pillar/sub-pillar	Rank	Score
A. Technology pillar	120	23.04
1st sub-pillar: Access	127	32.83
2nd sub-pillar: Content	132	0.39
3rd sub-pillar: Future Technologies	57	35.91
B. People pillar	130	17.26
1st sub-pillar: Individuals	125	17.70
2nd sub-pillar: Businesses	125	21.47
3rd sub-pillar: Governments	126	12.60

Pillar/sub-pillar	Rank	Score
C. Governance pillar	102	43.30
1st sub-pillar: Trust	122	16.57
2nd sub-pillar: Regulation	50	71.24
3rd sub-pillar: Inclusion	112	42.09
D. Impact pillar	121	35.43
1st sub-pillar: Economy	125	11.57
2nd sub-pillar: Quality of Life	119	44.22
3rd sub-pillar: SDG Contribution	109	50.50

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	120	23.04	
1st sub-pillar: Access	127	32.83	
1.1.1 Mobile tariffs	130	6.55	○
1.1.2 Handset prices	130	9.55	○
1.1.3 FTTH/building Internet subscriptions	125	0.00	○
1.1.4 Population covered by at least a 3G mobile network	108	95.70	
1.1.5 International Internet bandwidth	128	52.37	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	132	0.39	
1.2.1 GitHub commits	117	0.69	
1.2.2 Internet domain registrations	118	0.23	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	123	0.24	
3rd sub-pillar: Future Technologies	57	35.91	
1.3.1 Adoption of emerging technologies	95	35.57	
1.3.2 Investment in emerging technologies	77	36.25	●

Indicator	Rank	Score	
C. Governance pillar	102	43.30	
1st sub-pillar: Trust	122	16.57	
3.1.1 Secure Internet servers	120	26.28	
3.1.2 Cybersecurity	107	30.93	
3.1.3 Online access to financial account	114	8.45	
3.1.4 Internet shopping	127	0.61	
2nd sub-pillar: Regulation	50	71.24	
3.2.1 Regulatory quality	118	29.87	
3.2.2 ICT regulatory environment	96	69.06	●
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	18	86.02	●
3rd sub-pillar: Inclusion	112	42.09	
3.3.1 E-Participation	120	22.09	
3.3.2 Socioeconomic gap in use of digital payments	78	66.67	●
3.3.3 Availability of local online content	103	37.50	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	NA	NA	
B. People pillar	130	17.26	
1st sub-pillar: Individuals	125	17.70	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	117	10.36	
2.1.4 Tertiary enrollment	131	0.00	○
2.1.5 Adult literacy rate	98	42.74	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	125	21.47	
2.2.1 Firms with website	104	14.90	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	105	12.15	
2.2.4 Annual investment in telecommunication services	120	58.82	
2.2.5 GERD performed by business enterprise	91	0.00	○
3rd sub-pillar: Governments	126	12.60	
2.3.1 Government online services	132	5.56	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	86	31.18	●
2.3.4 R&D expenditure by governments and higher education	109	1.07	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	121	35.43	
1st sub-pillar: Economy	125	11.57	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	116	1.36	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	132	10.50	○
4.1.5 Prevalence of gig economy	71	37.50	●
4.1.6 ICT services exports	87	8.49	●
2nd sub-pillar: Quality of Life	119	44.22	
4.2.1 Happiness	107	35.84	
4.2.2 Freedom to make life choices	121	37.37	
4.2.3 Income inequality	73	60.80	●
4.2.4 Healthy life expectancy at birth	113	42.87	
3rd sub-pillar: SDG Contribution	109	50.50	
4.3.1 SDG 3: Good Health and Well-Being	115	32.03	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	112	56.64	
4.3.4 SDG 7: Affordable and Clean Energy	31	78.61	●
4.3.5 SDG 11: Sustainable Cities and Communities	118	34.70	

NOTE: ● a strength and ○ a weakness.

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Georgia

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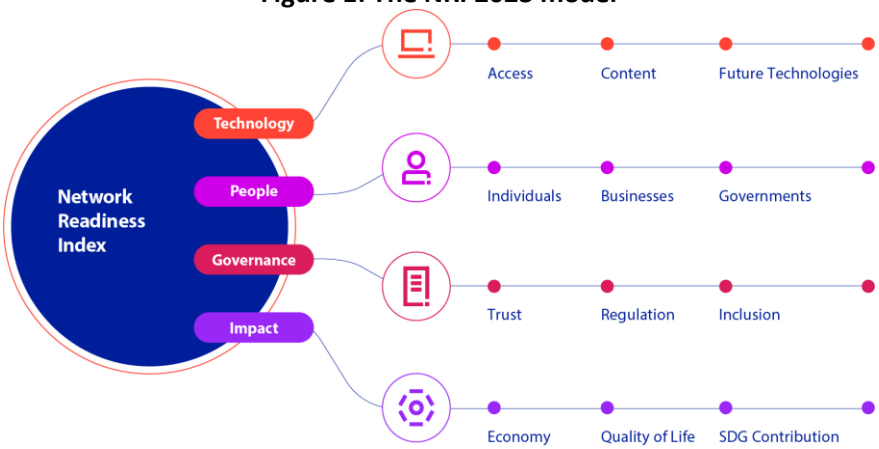
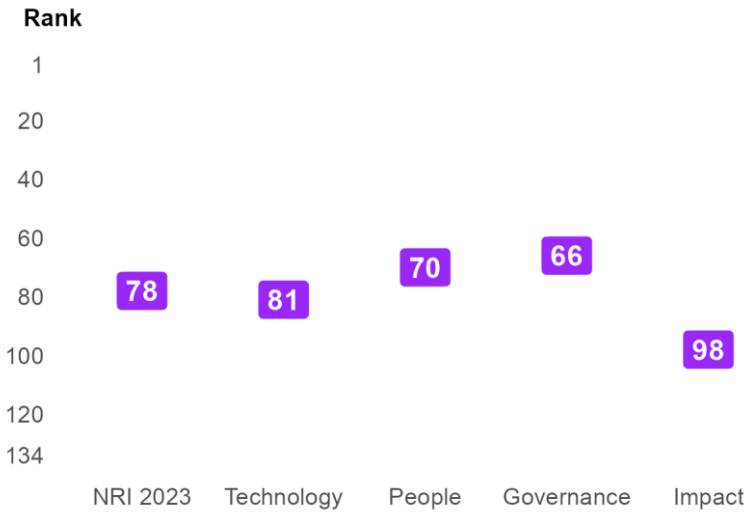
Figure 1: The NRI 2023 model



Global NRI position of Georgia

Georgia ranks 78th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Georgia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Georgia relate to Individuals, Access and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Economy and Future Technologies sub-pillars.

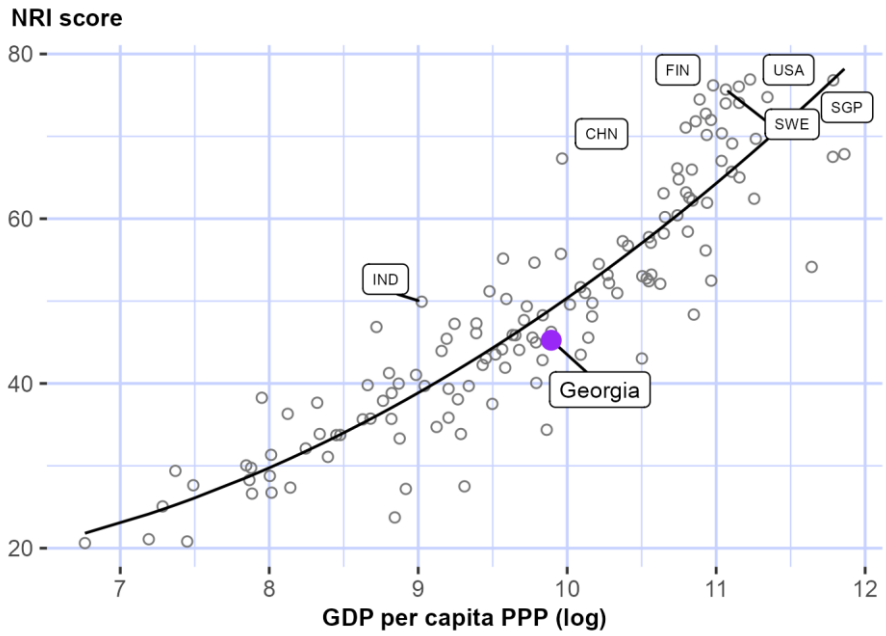
Table 1: Georgia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	27	Businesses	83
Access	50	Regulation	86
Content	58	Governments	87
Trust	68	SDG Contribution	103
Inclusion	69	Economy	113
Quality of Life	71	Future Technologies	117

NRI score and income

Figure 3 shows the position of Georgia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Georgia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Georgia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Georgia is ranked 24th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: People. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Access, Content, Individuals, Trust and Quality of Life.

Europe

Georgia is ranked 39th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Georgia against its income group and region, overall and by pillar

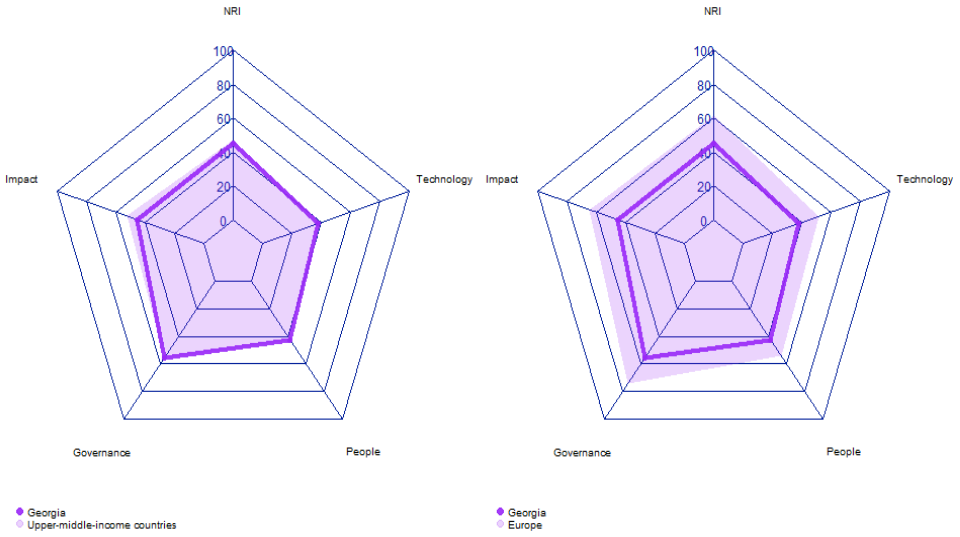


Table 2: Georgia scores vs. averages of its income group and region, overall and by pillar

Dimension	Georgia	Upper-middle-income countries	Europe
NRI	45.25	47.35	61.25
Technology	37.65	38.48	51.90
People	42.80	42.59	54.16
Governance	55.39	55.90	74.33
Impact	45.15	52.43	64.61

Strongest and weakest indicators

The indicators where Georgia performs particularly well include 1.1.6 Internet access in schools, 2.1.5 Adult literacy rate, and 1.1.4 Population covered by at least a 3G mobile network (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 3.2.4 E-commerce legislation, and 2.2.4 Annual investment in telecommunication services.

Table 3: Highlight of Strengths and Opportunities for Georgia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	4.3.2 SDG 4: Quality Education	67
2.1.5 Adult literacy rate	16	2.2.2 GERD financed by business enterprise	88
1.1.4 Population covered by at least a 3G mobile network	25	2.2.4 Annual investment in telecommunication services	100
2.1.3 Use of virtual social networks	26	3.2.4 E-commerce legislation	121
2.1.4 Tertiary enrollment	29	4.3.5 SDG 11: Sustainable Cities and Communities	129
3.2.1 Regulatory quality	29		
3.2.2 ICT regulatory environment	31		
3.3.4 Gender gap in Internet use	32		
1.2.1 GitHub commits	35		
1.1.3 FTTH/building Internet subscriptions	37		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Georgia

Network Readiness Index Rank: 78 (out of 134) Score: 45.25

Pillar/sub-pillar	Rank	Score
A. Technology pillar	81	37.65
1st sub-pillar: Access	50	69.76
2nd sub-pillar: Content	58	25.11
3rd sub-pillar: Future Technologies	117	18.07
B. People pillar	70	42.80
1st sub-pillar: Individuals	27	55.95
2nd sub-pillar: Businesses	83	39.74
3rd sub-pillar: Governments	87	32.71

Pillar/sub-pillar	Rank	Score
C. Governance pillar	66	55.39
1st sub-pillar: Trust	68	44.60
2nd sub-pillar: Regulation	86	61.31
3rd sub-pillar: Inclusion	69	60.26
D. Impact pillar	98	45.15
1st sub-pillar: Economy	113	15.61
2nd sub-pillar: Quality of Life	71	67.45
3rd sub-pillar: SDG Contribution	103	52.38

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	81	37.65	
1st sub-pillar: Access	50	69.76	
1.1.1 Mobile tariffs	46	72.14	
1.1.2 Handset prices	93	36.55	
1.1.3 FTTH/building Internet subscriptions	37	38.99	●
1.1.4 Population covered by at least a 3G mobile network	25	99.99	●
1.1.5 International Internet bandwidth	65	70.91	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	58	25.11	
1.2.1 GitHub commits	35	28.76	●
1.2.2 Internet domain registrations	62	4.64	
1.2.3 Mobile apps development	69	65.00	
1.2.4 AI scientific publications	87	2.05	
3rd sub-pillar: Future Technologies	117	18.07	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	98	30.00	

Indicator	Rank	Score	
C. Governance pillar	66	55.39	
1st sub-pillar: Trust	68	44.60	
3.1.1 Secure Internet servers	50	65.11	
3.1.2 Cybersecurity	63	80.73	
3.1.3 Online access to financial account	94	15.90	
3.1.4 Internet shopping	77	16.67	
2nd sub-pillar: Regulation	86	61.31	
3.2.1 Regulatory quality	29	73.56	●
3.2.2 ICT regulatory environment	31	90.00	●
3.2.3 Regulation of emerging technologies	58	46.49	
3.2.4 E-commerce legislation	121	33.33	○
3.2.5 Privacy protection by law content	68	63.16	
3rd sub-pillar: Inclusion	69	60.26	
3.3.1 E-Participation	71	52.33	
3.3.2 Socioeconomic gap in use of digital payments	68	73.20	
3.3.3 Availability of local online content	81	51.68	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	96	6.14	
B. People pillar	70	42.80	
1st sub-pillar: Individuals	27	55.95	
2.1.1 Mobile broadband internet traffic within the country	79	6.62	
2.1.2 ICT skills in the education system	64	49.66	
2.1.3 Use of virtual social networks	26	77.22	●
2.1.4 Tertiary enrollment	29	47.12	●
2.1.5 Adult literacy rate	16	99.13	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	83	39.74	
2.2.1 Firms with website	63	48.18	
2.2.2 GERD financed by business enterprise	88	2.11	○
2.2.3 Knowledge intensive employment	54	35.78	
2.2.4 Annual investment in telecommunication services	100	72.89	○
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	87	32.71	
2.3.1 Government online services	82	57.02	
2.3.2 Publication and use of open data	45	36.76	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	84	4.35	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	32	71.13	●
3.3.5 Rural gap in use of digital payments	86	52.98	
D. Impact pillar	98	45.15	
1st sub-pillar: Economy	113	15.61	
4.1.1 High-tech and medium-high-tech manufacturing	86	11.21	
4.1.2 High-tech exports	103	2.68	
4.1.3 PCT patent applications	59	4.33	
4.1.4 Domestic market size	95	41.17	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	53	18.68	
2nd sub-pillar: Quality of Life	71	67.45	
4.2.1 Happiness	85	54.69	
4.2.2 Freedom to make life choices	66	74.29	
4.2.3 Income inequality	44	72.36	
4.2.4 Healthy life expectancy at birth	79	68.46	
3rd sub-pillar: SDG Contribution	103	52.38	
4.3.1 SDG 3: Good Health and Well-Being	88	60.44	
4.3.2 SDG 4: Quality Education	67	21.46	○
4.3.3 SDG 5: Women's economic opportunity	48	83.19	
4.3.4 SDG 7: Affordable and Clean Energy	65	72.33	
4.3.5 SDG 11: Sustainable Cities and Communities	129	24.47	○

NOTE: ● a strength and ○ a weakness.

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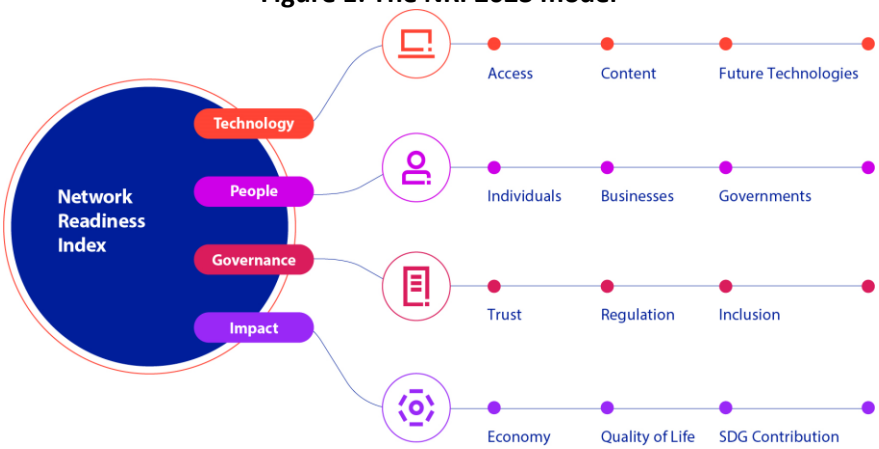
Germany

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

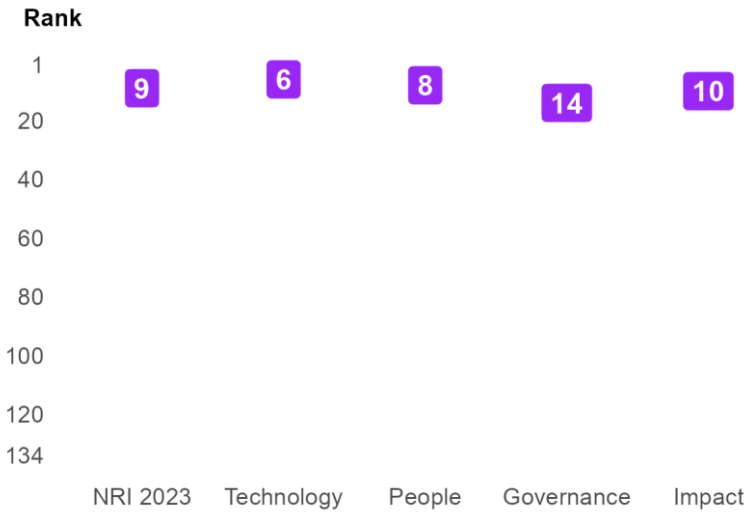
Figure 1: The NRI 2023 model



Global NRI position of Germany

Germany ranks 9th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Germany global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Germany relate to Future Technologies, Businesses and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Access and Individuals sub-pillars.

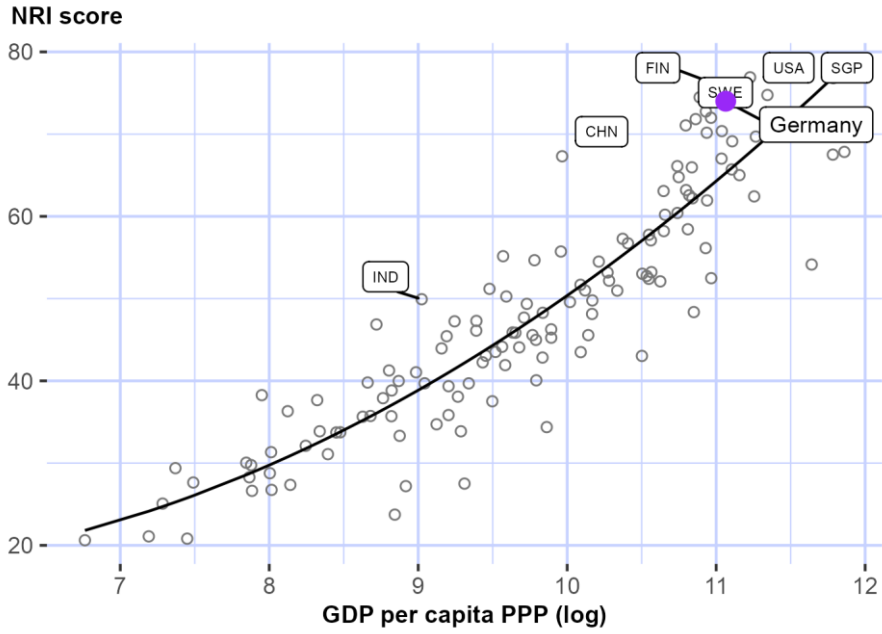
Table 1: Germany rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	4	Trust	13
Businesses	5	Economy	13
Content	7	Quality of Life	15
SDG Contribution	11	Inclusion	20
Governments	12	Access	22
Regulation	12	Individuals	22

NRI score and income

Figure 3 shows the position of Germany in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Germany is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Germany belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Germany is ranked 9th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Europe

Germany is ranked 6th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Germany against its income group and region, overall and by pillar

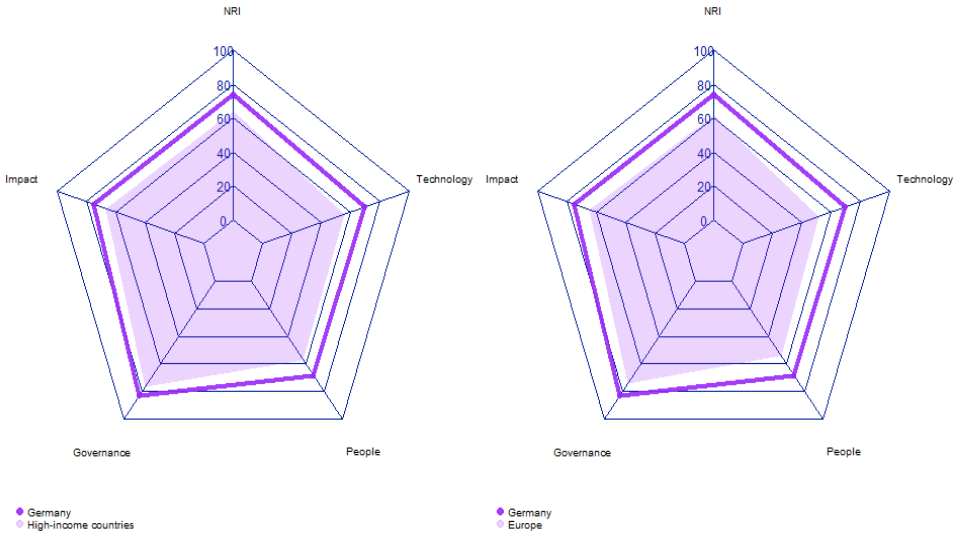


Table 2: Germany scores vs. averages of its income group and region, overall and by pillar

Dimension	Germany	High-income countries	Europe
NRI	74.00	64.07	61.25
Technology	69.45	55.76	51.90
People	68.25	56.99	54.16
Governance	83.16	76.81	74.33
Impact	75.13	66.73	64.61

Strongest and weakest indicators

The indicators where Germany performs particularly well include 3.2.4 E-commerce legislation, 4.3.3 SDG 5: Women's economic opportunity, and 3.3.2 Socioeconomic gap in use of digital payments (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 4.1.6 ICT services exports, and 1.2.3 Mobile apps development.

Table 3: Highlight of Strengths and Opportunities for Germany

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.2 ICT skills in the education system	38
4.3.3 SDG 5: Women's economic opportunity	1	1.2.3 Mobile apps development	49
3.3.2 Socioeconomic gap in use of digital payments	2	4.1.6 ICT services exports	56
1.3.3 Robot density	3	3.3.4 Gender gap in Internet use	63
2.2.4 Annual investment in telecommunication services	5		
4.1.4 Domestic market size	5		
2.2.1 Firms with website	6		
1.2.2 Internet domain registrations	7		
1.3.2 Investment in emerging technologies	7		
3.1.1 Secure Internet servers	7		
1.2.4 AI scientific publications	9		
1.3.1 Adoption of emerging technologies	9		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Germany

Network Readiness Index

Rank: 9 (out of 134) Score: 74.00

Pillar/sub-pillar	Rank	Score
A. Technology pillar	6	69.45
1st sub-pillar: Access	22	75.84
2nd sub-pillar: Content	7	60.88
3rd sub-pillar: Future Technologies	4	71.65
B. People pillar	8	68.25
1st sub-pillar: Individuals	22	57.41
2nd sub-pillar: Businesses	5	77.31
3rd sub-pillar: Governments	12	70.03

Pillar/sub-pillar	Rank	Score
C. Governance pillar	14	83.16
1st sub-pillar: Trust	13	82.21
2nd sub-pillar: Regulation	12	87.46
3rd sub-pillar: Inclusion	20	79.80
D. Impact pillar	10	75.13
1st sub-pillar: Economy	13	56.21
2nd sub-pillar: Quality of Life	15	83.43
3rd sub-pillar: SDG Contribution	11	85.75

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	6	69.45	
1st sub-pillar: Access	22	75.84	
1.1.1 Mobile tariffs	18	84.73	
1.1.2 Handset prices	20	77.10	
1.1.3 FTTH/building Internet subscriptions	41	37.54	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	26	79.84	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	7	60.88	
1.2.1 GitHub commits	18	56.48	
1.2.2 Internet domain registrations	7	78.18	●
1.2.3 Mobile apps development	49	70.88	○
1.2.4 AI scientific publications	9	37.96	●
3rd sub-pillar: Future Technologies	4	71.65	
1.3.1 Adoption of emerging technologies	9	85.48	●
1.3.2 Investment in emerging technologies	7	86.75	●
1.3.3 Robot density	3	56.82	●

Indicator	Rank	Score	
C. Governance pillar	14	83.16	
1st sub-pillar: Trust	13	82.21	
3.1.1 Secure Internet servers	7	91.67	●
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	14	71.20	
3.1.4 Internet shopping	24	68.62	
2nd sub-pillar: Regulation	12	87.46	
3.2.1 Regulatory quality	11	86.46	
3.2.2 ICT regulatory environment	21	93.53	
3.2.3 Regulation of emerging technologies	21	74.55	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	26	82.77	
3rd sub-pillar: Inclusion	20	79.80	
3.3.1 E-Participation	32	72.10	
3.3.2 Socioeconomic gap in use of digital payments	2	99.90	●
3.3.3 Availability of local online content	26	84.38	
3.3.4 Gender gap in Internet use	63	67.46	○

Indicator	Rank	Score	
1.3.4 Computer software spending	15	57.56	
B. People pillar	8	68.25	
1st sub-pillar: Individuals	22	57.41	
2.1.1 Mobile broadband internet traffic within the country	20	37.09	
2.1.2 ICT skills in the education system	38	60.61	○
2.1.3 Use of virtual social networks	12	80.55	
2.1.4 Tertiary enrollment	28	47.43	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	5	61.37	
2nd sub-pillar: Businesses	5	77.31	
2.2.1 Firms with website	6	92.28	●
2.2.2 GERD financed by business enterprise	11	77.45	
2.2.3 Knowledge intensive employment	20	70.67	
2.2.4 Annual investment in telecommunication services	5	92.66	●
2.2.5 GERD performed by business enterprise	9	53.51	
3rd sub-pillar: Governments	12	70.03	
2.3.1 Government online services	44	76.85	
2.3.2 Publication and use of open data	11	73.53	
2.3.3 Government promotion of investment in emerging tech	14	73.42	
2.3.4 R&D expenditure by governments and higher education	9	56.31	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	27	75.20	
D. Impact pillar	10	75.13	
1st sub-pillar: Economy	13	56.21	
4.1.1 High-tech and medium-high-tech manufacturing	9	66.52	
4.1.2 High-tech exports	34	27.37	
4.1.3 PCT patent applications	10	64.49	
4.1.4 Domestic market size	5	83.19	●
4.1.5 Prevalence of gig economy	12	78.20	
4.1.6 ICT services exports	56	17.51	○
2nd sub-pillar: Quality of Life	15	83.43	
4.2.1 Happiness	27	79.15	
4.2.2 Freedom to make life choices	27	86.66	
4.2.3 Income inequality	29	78.64	
4.2.4 Healthy life expectancy at birth	23	89.27	
3rd sub-pillar: SDG Contribution	11	85.75	
4.3.1 SDG 3: Good Health and Well-Being	11	94.24	
4.3.2 SDG 4: Quality Education	18	67.91	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	29	79.48	
4.3.5 SDG 11: Sustainable Cities and Communities	26	87.12	

NOTE: ● a strength and ○ a weakness.

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Ghana

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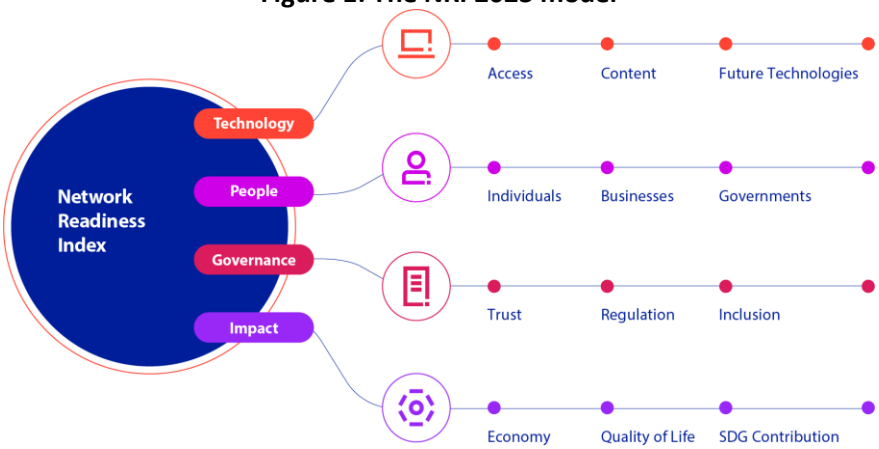
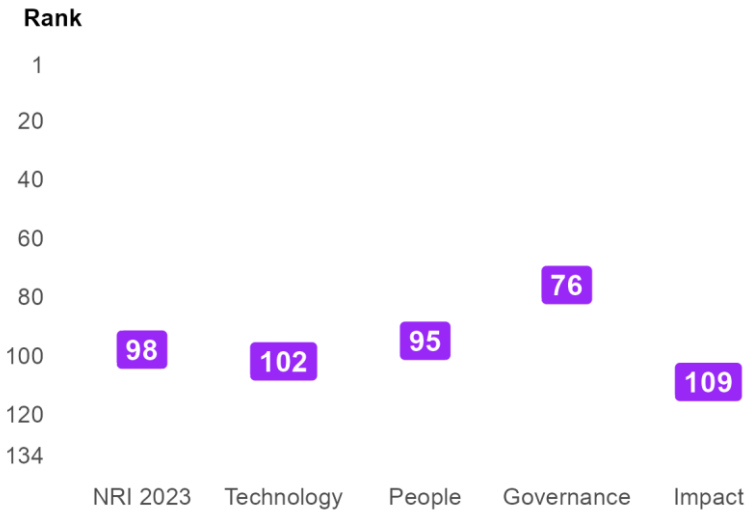
Figure 1: The NRI 2023 model



Global NRI position of Ghana

Ghana ranks 98th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Ghana global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ghana relate to Regulation, Trust and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Content and Quality of Life sub-pillars.

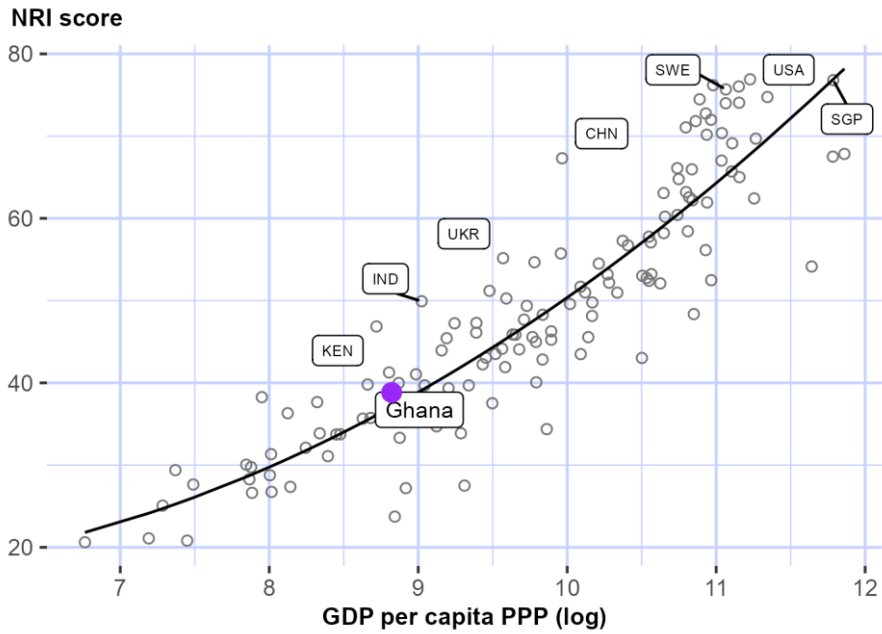
Table 1: Ghana rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	55	SDG Contribution	101
Trust	75	Economy	103
Businesses	84	Access	105
Governments	84	Individuals	107
Future Technologies	90	Content	111
Inclusion	101	Quality of Life	111

NRI score and income

Figure 3 shows the position of Ghana in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ghana is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Ghana belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Ghana is ranked 20th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, People and Governance. At the sub-pillar level, it outperforms lower-middle-income countries in four of the twelve sub-pillars: Businesses, Governments, Trust and Regulation.

Africa

Ghana is ranked 5th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Ghana against its income group and region, overall and by pillar

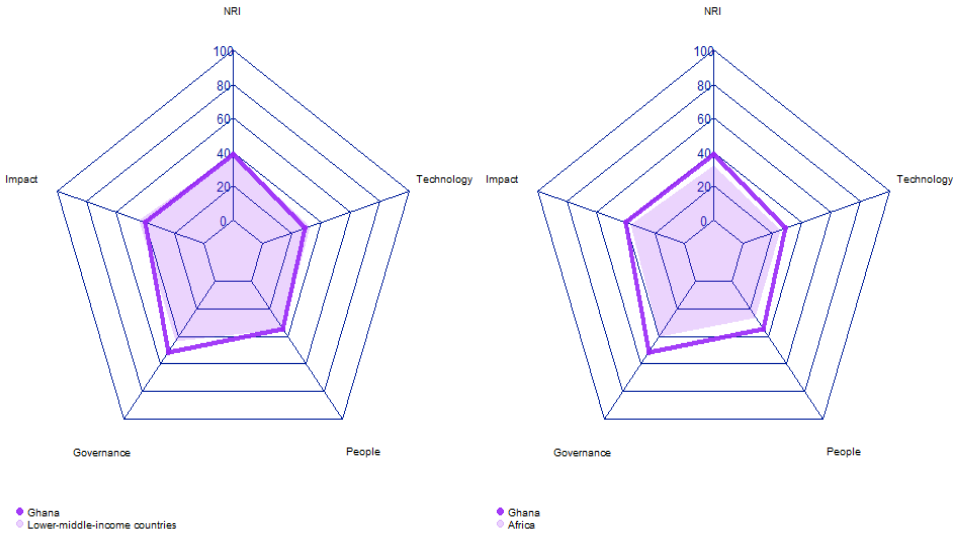


Table 2: Ghana scores vs. averages of its income group and region, overall and by pillar

Dimension	Ghana	Lower-middle-income countries	Africa
NRI	38.83	38.41	32.14
Technology	29.02	32.12	25.14
People	34.58	34.38	26.19
Governance	51.68	43.27	40.44
Impact	40.03	43.89	36.77

Strongest and weakest indicators

The indicators where Ghana performs particularly well include 3.2.4 E-commerce legislation, 3.2.5 Privacy protection by law content, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 4.3.1 SDG 3: Good Health and Well-Being, and 1.2.3 Mobile apps development.

Table 3: Highlight of Strengths and Opportunities for Ghana

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
3.2.5 Privacy protection by law content	14	4.2.1 Happiness	113
4.3.4 SDG 7: Affordable and Clean Energy	23	1.2.3 Mobile apps development	115
1.3.2 Investment in emerging technologies	44	4.3.1 SDG 3: Good Health and Well-Being	119
2.1.1 Mobile broadband internet traffic within the country	47	1.3.4 Computer software spending	125
1.2.4 AI scientific publications	51		
3.1.2 Cybersecurity	51		
1.1.5 International Internet bandwidth	58		
3.1.3 Online access to financial account	58		
4.1.4 Domestic market size	66		
2.2.4 Annual investment in telecommunication services	71		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Ghana

Network Readiness Index Rank: 98 (out of 134) Score: 38.83

Pillar/sub-pillar	Rank	Score
A. Technology pillar	102	29.02
1st sub-pillar: Access	105	47.41
2nd sub-pillar: Content	111	12.29
3rd sub-pillar: Future Technologies	90	27.37
B. People pillar	95	34.58
1st sub-pillar: Individuals	107	31.68
2nd sub-pillar: Businesses	84	38.58
3rd sub-pillar: Governments	84	33.50

Pillar/sub-pillar	Rank	Score
C. Governance pillar	76	51.68
1st sub-pillar: Trust	75	40.08
2nd sub-pillar: Regulation	55	68.36
3rd sub-pillar: Inclusion	101	46.61
D. Impact pillar	109	40.03
1st sub-pillar: Economy	103	17.89
2nd sub-pillar: Quality of Life	111	49.44
3rd sub-pillar: SDG Contribution	101	52.77

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	102	29.02	
1st sub-pillar: Access	105	47.41	
1.1.1 Mobile tariffs	78	54.35	
1.1.2 Handset prices	112	27.46	
1.1.3 FTTH/building Internet subscriptions	84	22.75	
1.1.4 Population covered by at least a 3G mobile network	89	98.60	
1.1.5 International Internet bandwidth	58	72.91	•
1.1.6 Internet access in schools	74	8.41	
2nd sub-pillar: Content	111	12.29	
1.2.1 GitHub commits	90	2.98	
1.2.2 Internet domain registrations	116	0.30	
1.2.3 Mobile apps development	115	37.61	○
1.2.4 AI scientific publications	51	8.26	•
3rd sub-pillar: Future Technologies	90	27.37	
1.3.1 Adoption of emerging technologies	99	32.17	
1.3.2 Investment in emerging technologies	44	49.25	•

Indicator	Rank	Score	
C. Governance pillar	76	51.68	
1st sub-pillar: Trust	75	40.08	
3.1.1 Secure Internet servers	111	32.28	
3.1.2 Cybersecurity	51	86.46	•
3.1.3 Online access to financial account	58	32.31	•
3.1.4 Internet shopping	94	9.28	
2nd sub-pillar: Regulation	55	68.36	
3.2.1 Regulatory quality	80	45.08	
3.2.2 ICT regulatory environment	79	76.47	
3.2.3 Regulation of emerging technologies	83	32.73	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	14	87.53	•
3rd sub-pillar: Inclusion	101	46.61	
3.3.1 E-Participation	82	44.18	
3.3.2 Socioeconomic gap in use of digital payments	82	64.96	
3.3.3 Availability of local online content	103	37.50	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	125	0.68	○
B. People pillar	95	34.58	
1st sub-pillar: Individuals	107	31.68	
2.1.1 Mobile broadband internet traffic within the country	47	15.89	●
2.1.2 ICT skills in the education system	76	41.51	
2.1.3 Use of virtual social networks	108	16.42	
2.1.4 Tertiary enrollment	99	11.35	
2.1.5 Adult literacy rate	81	73.21	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	84	38.58	
2.2.1 Firms with website	92	27.38	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	107	11.12	
2.2.4 Annual investment in telecommunication services	71	77.23	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	84	33.50	
2.3.1 Government online services	92	48.73	
2.3.2 Publication and use of open data	65	25.00	
2.3.3 Government promotion of investment in emerging tech	98	26.77	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	103	39.78	
D. Impact pillar	109	40.03	
1st sub-pillar: Economy	103	17.89	
4.1.1 High-tech and medium-high-tech manufacturing	84	11.89	
4.1.2 High-tech exports	109	1.82	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	66	52.03	●
4.1.5 Prevalence of gig economy	75	36.63	
4.1.6 ICT services exports	95	4.99	
2nd sub-pillar: Quality of Life	111	49.44	
4.2.1 Happiness	113	34.19	○
4.2.2 Freedom to make life choices	79	68.55	
4.2.3 Income inequality	94	48.99	
4.2.4 Healthy life expectancy at birth	109	46.02	
3rd sub-pillar: SDG Contribution	101	52.77	
4.3.1 SDG 3: Good Health and Well-Being	119	27.64	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	101	64.60	
4.3.4 SDG 7: Affordable and Clean Energy	23	80.71	●
4.3.5 SDG 11: Sustainable Cities and Communities	114	38.13	

NOTE: ● a strength and ○ a weakness.

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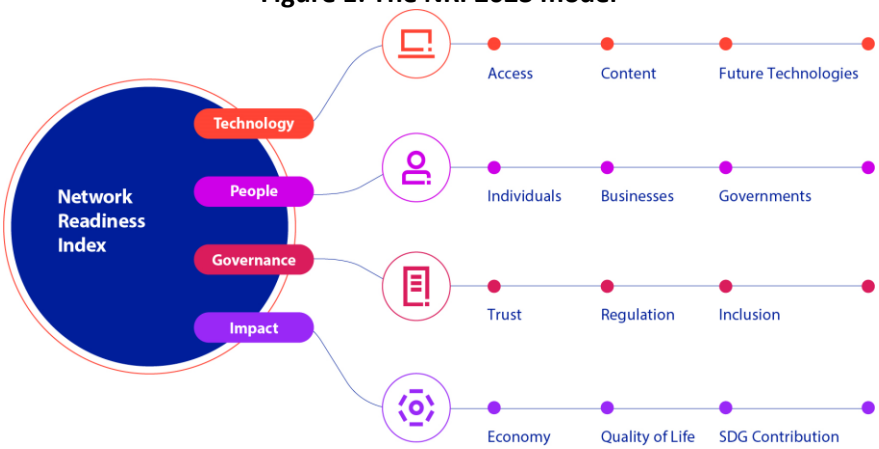
Greece

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

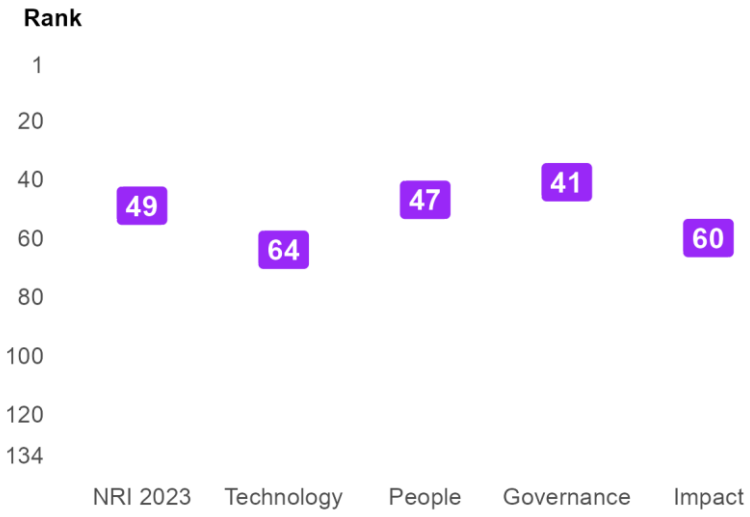
Figure 1: The NRI 2023 model



Global NRI position of Greece

Greece ranks 49th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Greece global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Greece relate to SDG Contribution, Individuals and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Quality of Life and Economy sub-pillars.

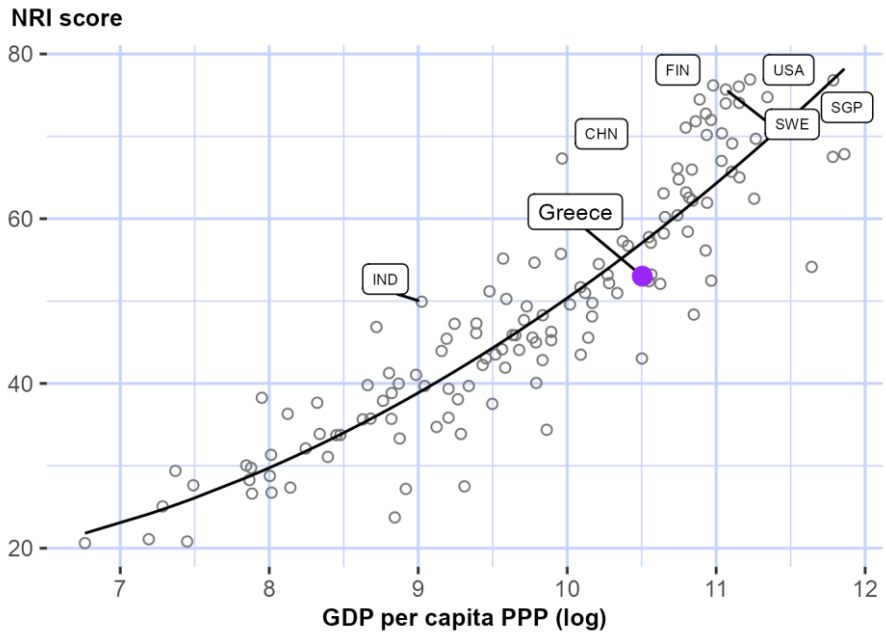
Table 1: Greece rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	35	Inclusion	53
Individuals	38	Governments	64
Trust	42	Future Technologies	70
Regulation	44	Access	77
Content	45	Quality of Life	80
Businesses	50	Economy	82

NRI score and income

Figure 3 shows the position of Greece in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Greece is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Greece belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Greece is ranked 42nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

Europe

Greece is ranked 31st within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Greece against its income group and region, overall and by pillar

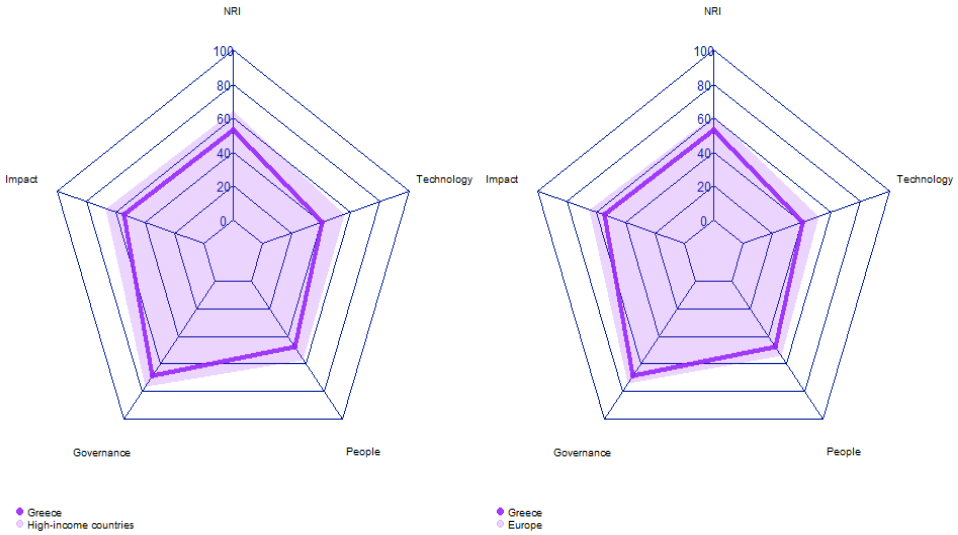


Table 2: Greece scores vs. averages of its income group and region, overall and by pillar

Dimension	Greece	High-income countries	Europe
NRI	53.02	64.07	61.25
Technology	40.87	55.76	51.90
People	47.99	56.99	54.16
Governance	68.73	76.81	74.33
Impact	54.50	66.73	64.61

Strongest and weakest indicators

The indicators where Greece performs particularly well include 2.1.4 Tertiary enrollment, 3.2.4 E-commerce legislation, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.1.3 FTTH/building Internet subscriptions, and 1.3.2 Investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Greece

Strongest indicators	Rank	Weakest indicators	Rank
2.1.4 Tertiary enrollment	1	4.1.5 Prevalence of gig economy	105
3.2.4 E-commerce legislation	1	2.3.3 Government promotion of investment in emerging technologies	108
4.3.3 SDG 5: Women's economic opportunity	1	1.3.2 Investment in emerging technologies	112
2.1.6 AI talent concentration	7	1.1.3 FTTH/building Internet subscriptions	121
1.3.4 Computer software spending	13	4.2.2 Freedom to make life choices	124
3.1.4 Internet shopping	22		
4.2.4 Healthy life expectancy at birth	24		
2.3.4 R&D expenditure by governments and higher education	28		
3.2.2 ICT regulatory environment	28		
4.3.4 SDG 7: Affordable and Clean Energy	31		
1.2.4 AI scientific publications	33		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Greece

Network Readiness Index Rank: 49 (out of 134) Score: 53.02

Pillar/sub-pillar	Rank	Score
A. Technology pillar	64	40.87
1st sub-pillar: Access	77	61.25
2nd sub-pillar: Content	45	29.83
3rd sub-pillar: Future Technologies	70	31.53
B. People pillar	47	47.99
1st sub-pillar: Individuals	38	52.98
2nd sub-pillar: Businesses	50	50.95
3rd sub-pillar: Governments	64	40.03

Pillar/sub-pillar	Rank	Score
C. Governance pillar	41	68.73
1st sub-pillar: Trust	42	65.07
2nd sub-pillar: Regulation	44	72.87
3rd sub-pillar: Inclusion	53	68.24
D. Impact pillar	60	54.50
1st sub-pillar: Economy	82	22.84
2nd sub-pillar: Quality of Life	80	65.09
3rd sub-pillar: SDG Contribution	35	75.57

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	64	40.87	
1st sub-pillar: Access	77	61.25	
1.1.1 Mobile tariffs	58	66.18	
1.1.2 Handset prices	48	59.68	
1.1.3 FTTH/building Internet subscriptions	121	3.78	○
1.1.4 Population covered by at least a 3G mobile network	46	99.90	
1.1.5 International Internet bandwidth	35	76.70	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	45	29.83	
1.2.1 GitHub commits	44	20.45	
1.2.2 Internet domain registrations	34	19.65	
1.2.3 Mobile apps development	79	62.69	
1.2.4 AI scientific publications	33	16.54	●
3rd sub-pillar: Future Technologies	70	31.53	
1.3.1 Adoption of emerging technologies	86	38.50	
1.3.2 Investment in emerging technologies	112	23.50	○

Indicator	Rank	Score	
C. Governance pillar	41	68.73	
1st sub-pillar: Trust	42	65.07	
3.1.1 Secure Internet servers	44	72.57	
3.1.2 Cybersecurity	35	93.87	
3.1.3 Online access to financial account	75	23.33	
3.1.4 Internet shopping	22	70.53	●
2nd sub-pillar: Regulation	44	72.87	
3.2.1 Regulatory quality	49	59.58	
3.2.2 ICT regulatory environment	28	90.59	●
3.2.3 Regulation of emerging technologies	66	43.64	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	55	70.56	
3rd sub-pillar: Inclusion	53	68.24	
3.3.1 E-Participation	55	60.46	
3.3.2 Socioeconomic gap in use of digital payments	43	86.52	
3.3.3 Availability of local online content	63	61.30	

Indicator	Rank	Score	
1.3.3 Robot density	41	2.89	
1.3.4 Computer software spending	13	61.22	●
B. People pillar	47	47.99	
1st sub-pillar: Individuals	38	52.98	
2.1.1 Mobile broadband internet traffic within the country	69	8.65	
2.1.2 ICT skills in the education system	62	50.69	
2.1.3 Use of virtual social networks	59	68.04	
2.1.4 Tertiary enrollment	1	100.00	●
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	7	37.55	●
2nd sub-pillar: Businesses	50	50.95	
2.2.1 Firms with website	50	60.02	
2.2.2 GERD financed by business enterprise	44	47.56	
2.2.3 Knowledge intensive employment	44	47.59	
2.2.4 Annual investment in telecommunication services	40	82.01	
2.2.5 GERD performed by business enterprise	34	17.55	
3rd sub-pillar: Governments	64	40.03	
2.3.1 Government online services	48	75.17	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	108	17.80	○
2.3.4 R&D expenditure by governments and higher education	28	25.97	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	49	69.18	
3.3.5 Rural gap in use of digital payments	66	63.76	
D. Impact pillar	60	54.50	
1st sub-pillar: Economy	82	22.84	
4.1.1 High-tech and medium-high-tech manufacturing	70	19.86	
4.1.2 High-tech exports	69	10.84	
4.1.3 PCT patent applications	34	13.06	
4.1.4 Domestic market size	53	57.71	
4.1.5 Prevalence of gig economy	105	23.26	○
4.1.6 ICT services exports	69	12.34	
2nd sub-pillar: Quality of Life	80	65.09	
4.2.1 Happiness	62	65.99	
4.2.2 Freedom to make life choices	124	31.29	○
4.2.3 Income inequality	42	73.87	
4.2.4 Healthy life expectancy at birth	24	89.21	●
3rd sub-pillar: SDG Contribution	35	75.57	
4.3.1 SDG 3: Good Health and Well-Being	40	80.83	
4.3.2 SDG 4: Quality Education	42	48.73	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	31	78.61	●
4.3.5 SDG 11: Sustainable Cities and Communities	57	69.65	

NOTE: ● a strength and ○ a weakness.

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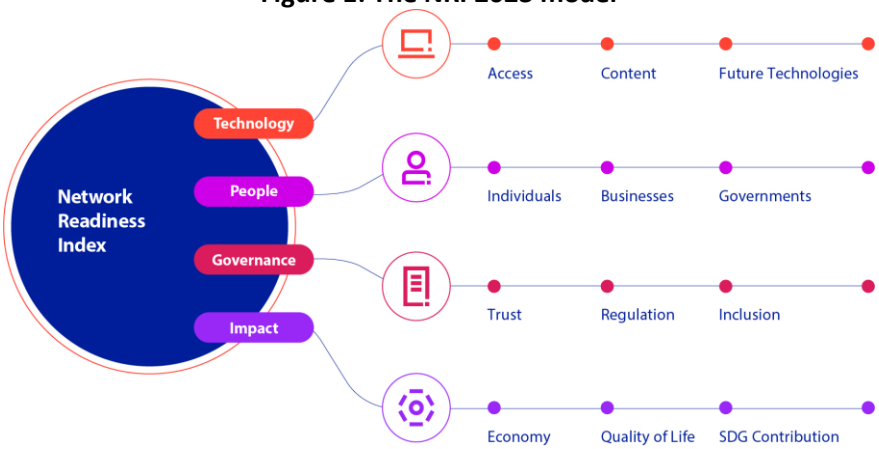
Guatemala

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

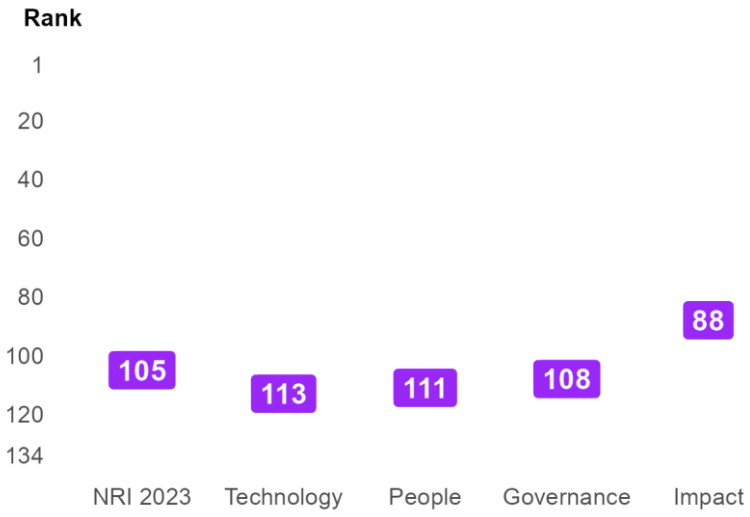
Figure 1: The NRI 2023 model



Global NRI position of Guatemala

Guatemala ranks 105th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Guatemala global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Guatemala relate to SDG Contribution, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Trust and Businesses sub-pillars.

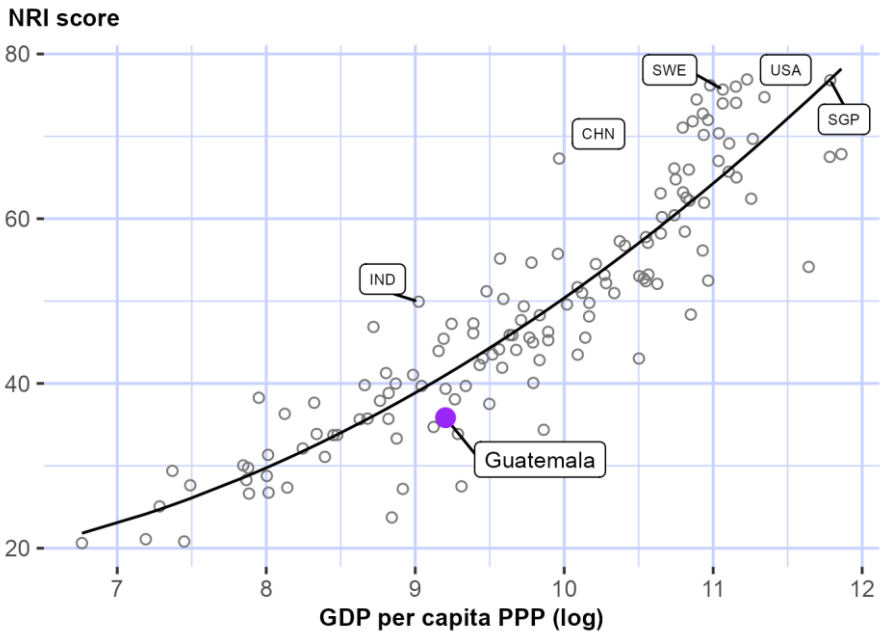
Table 1: Guatemala rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	81	Regulation	100
Individuals	84	Content	112
Quality of Life	86	Governments	112
Future Technologies	93	Access	115
Inclusion	93	Trust	124
Economy	93	Businesses	127

NRI score and income

Figure 3 shows the position of Guatemala in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Guatemala is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Guatemala belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Guatemala is ranked 32nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails upper-middle-income countries in all of them.

The Americas

Guatemala is ranked 19th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Guatemala against its income group and region, overall and by pillar

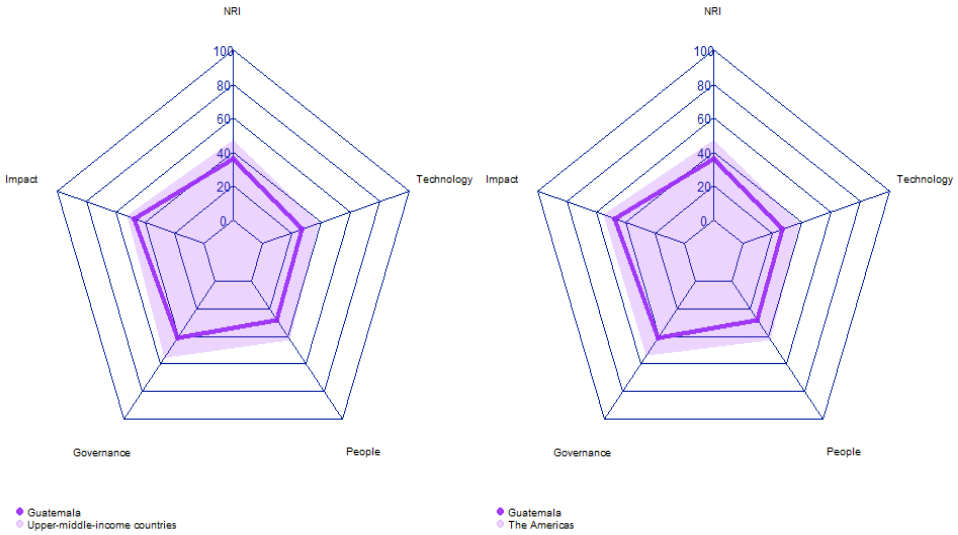


Table 2: Guatemala scores vs. averages of its income group and region, overall and by pillar

Dimension	Guatemala	Upper-middle-income countries	The Americas
NRI	35.84	47.35	47.41
Technology	26.66	38.48	38.24
People	28.15	42.59	42.35
Governance	40.84	55.90	54.12
Impact	47.72	52.43	54.93

Strongest and weakest indicators

The indicators where Guatemala performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 1.3.4 Computer software spending, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Guatemala

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	88
4.1.6 ICT services exports	39	2.3.4 R&D expenditure by governments and higher education	111
4.2.1 Happiness	46	2.3.3 Government promotion of investment in emerging technologies	118
4.2.2 Freedom to make life choices	46	1.3.4 Computer software spending	123
2.2.1 Firms with website	54	3.1.2 Cybersecurity	125
3.3.5 Rural gap in use of digital payments	65		
4.1.4 Domestic market size	72		
1.3.2 Investment in emerging technologies	73		
4.1.2 High-tech exports	75		
4.3.4 SDG 7: Affordable and Clean Energy	75		
4.3.5 SDG 11: Sustainable Cities and Communities	76		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Guatemala

Network Readiness Index Rank: 105 (out of 134) Score: 35.84

Pillar/sub-pillar	Rank	Score
A. Technology pillar	113	26.66
1st sub-pillar: Access	115	41.72
2nd sub-pillar: Content	112	11.71
3rd sub-pillar: Future Technologies	93	26.53
B. People pillar	111	28.15
1st sub-pillar: Individuals	84	42.96
2nd sub-pillar: Businesses	127	20.13
3rd sub-pillar: Governments	112	21.37

Pillar/sub-pillar	Rank	Score
C. Governance pillar	108	40.84
1st sub-pillar: Trust	124	16.43
2nd sub-pillar: Regulation	100	56.30
3rd sub-pillar: Inclusion	93	49.79
D. Impact pillar	88	47.72
1st sub-pillar: Economy	93	20.99
2nd sub-pillar: Quality of Life	86	62.06
3rd sub-pillar: SDG Contribution	81	60.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	113	26.66	
1st sub-pillar: Access	115	41.72	
1.1.1 Mobile tariffs	113	28.58	
1.1.2 Handset prices	77	42.21	
1.1.3 FTTH/building Internet subscriptions	106	10.18	
1.1.4 Population covered by at least a 3G mobile network	93	98.31	
1.1.5 International Internet bandwidth	111	61.93	
1.1.6 Internet access in schools	72	9.12	
2nd sub-pillar: Content	112	11.71	
1.2.1 GitHub commits	98	2.18	
1.2.2 Internet domain registrations	77	2.31	
1.2.3 Mobile apps development	111	41.95	
1.2.4 AI scientific publications	117	0.40	
3rd sub-pillar: Future Technologies	93	26.53	
1.3.1 Adoption of emerging technologies	79	41.14	
1.3.2 Investment in emerging technologies	73	37.50	•

Indicator	Rank	Score	
C. Governance pillar	108	40.84	
1st sub-pillar: Trust	124	16.43	
3.1.1 Secure Internet servers	102	37.24	
3.1.2 Cybersecurity	125	11.60	○
3.1.3 Online access to financial account	116	7.65	
3.1.4 Internet shopping	95	9.22	
2nd sub-pillar: Regulation	100	56.30	
3.2.1 Regulatory quality	88	42.48	
3.2.2 ICT regulatory environment	121	57.29	
3.2.3 Regulation of emerging technologies	103	21.30	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	79	60.42	
3rd sub-pillar: Inclusion	93	49.79	
3.3.1 E-Participation	101	31.39	
3.3.2 Socioeconomic gap in use of digital payments	90	58.29	
3.3.3 Availability of local online content	101	38.70	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	123	0.96	○
B. People pillar	111	28.15	
1st sub-pillar: Individuals	84	42.96	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	82	36.81	
2.1.3 Use of virtual social networks	91	44.67	
2.1.4 Tertiary enrollment	97	13.11	
2.1.5 Adult literacy rate	74	77.27	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	127	20.13	
2.2.1 Firms with website	54	56.03	●
2.2.2 GERD financed by business enterprise	74	13.72	
2.2.3 Knowledge intensive employment	109	10.71	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	88	0.05	○
3rd sub-pillar: Governments	112	21.37	
2.3.1 Government online services	91	49.26	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	118	8.88	○
2.3.4 R&D expenditure by governments and higher education	111	0.87	○

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	89	56.71	
3.3.5 Rural gap in use of digital payments	65	63.86	●
D. Impact pillar	88	47.72	
1st sub-pillar: Economy	93	20.99	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	75	9.13	●
4.1.3 PCT patent applications	95	0.22	
4.1.4 Domestic market size	72	50.47	●
4.1.5 Prevalence of gig economy	110	19.77	
4.1.6 ICT services exports	39	25.37	●
2nd sub-pillar: Quality of Life	86	62.06	
4.2.1 Happiness	46	70.64	●
4.2.2 Freedom to make life choices	46	80.15	●
4.2.3 Income inequality	104	36.93	
4.2.4 Healthy life expectancy at birth	95	60.50	
3rd sub-pillar: SDG Contribution	81	60.12	
4.3.1 SDG 3: Good Health and Well-Being	101	47.29	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	105	62.83	
4.3.4 SDG 7: Affordable and Clean Energy	75	69.29	●
4.3.5 SDG 11: Sustainable Cities and Communities	76	61.06	●

NOTE: ● a strength and ○ a weakness.

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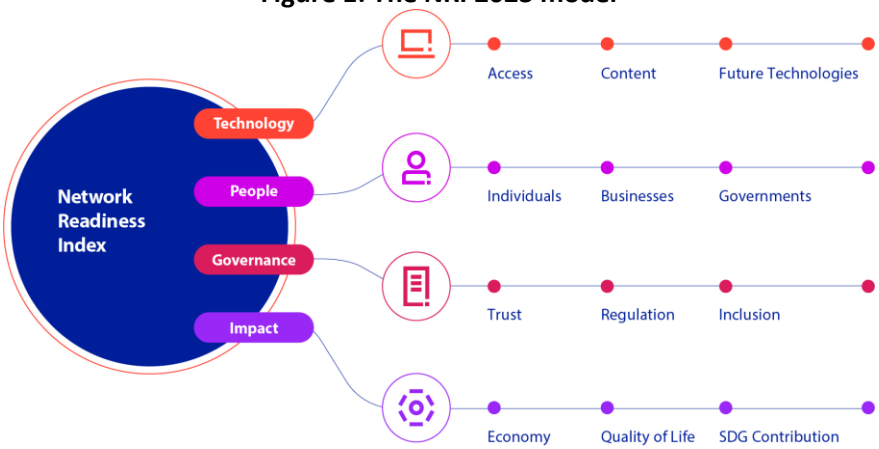
Guinea

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

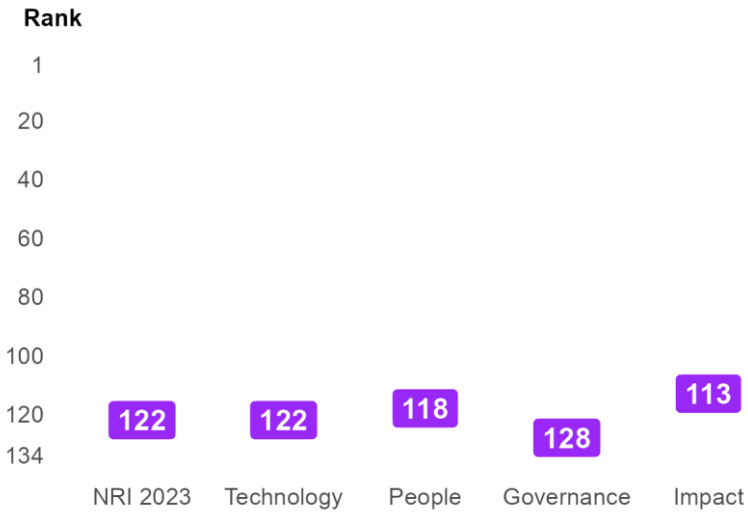
Figure 1: The NRI 2023 model



Global NRI position of Guinea

Guinea ranks 122nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Guinea global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Guinea relate to Governments, Future Technologies and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Inclusion sub-pillars.

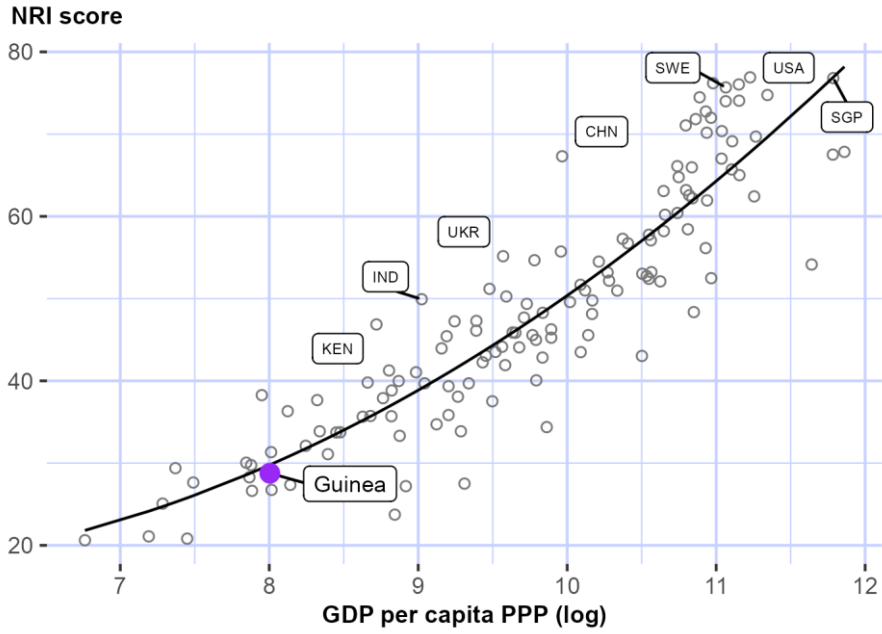
Table 1: Guinea rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	79	Content	119
Future Technologies	84	Trust	129
Economy	95	Access	130
Quality of Life	99	Individuals	130
Businesses	109	SDG Contribution	130
Regulation	111	Inclusion	133

NRI score and income

Figure 3 shows the position of Guinea in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Guinea is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Guinea belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Guinea is ranked 36th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Future Technologies, Governments and Quality of Life.

Africa

Guinea is ranked 20th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Future Technologies, Governments, Economy and Quality of Life.

Figure 4: Performance of Guinea against its income group and region, overall and by pillar

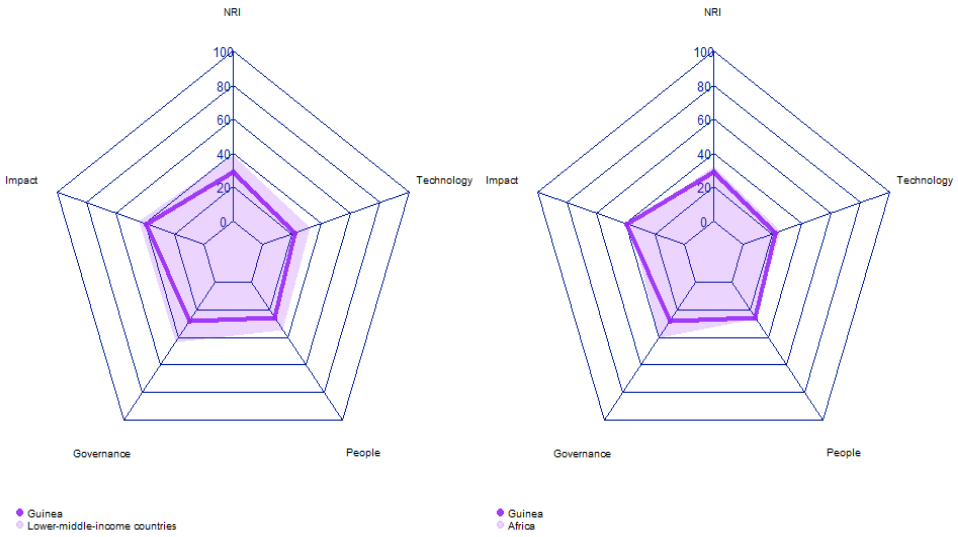


Table 2: Guinea scores vs. averages of its income group and region, overall and by pillar

Dimension	Guinea	Lower-middle-income countries	Africa
NRI	28.77	38.41	32.14
Technology	22.01	32.12	25.14
People	25.99	34.38	26.19
Governance	28.17	43.27	40.44
Impact	38.91	43.89	36.77

Strongest and weakest indicators

The indicators where Guinea performs particularly well include 3.2.5 Privacy protection by law content, 4.2.3 Income inequality, and 4.1.5 Prevalence of gig economy (Table 3). By contrast, the economy's weakest indicators include 1.1.4 Population covered by at least a 3G mobile network, 1.2.1 GitHub commits, 1.2.2 Internet domain registrations, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Guinea

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	11	1.1.6 Internet access in schools	84
4.2.3 Income inequality	21	3.3.4 Gender gap in Internet use	105
4.1.5 Prevalence of gig economy	35	4.2.4 Healthy life expectancy at birth	128
1.3.2 Investment in emerging technologies	53	3.1.1 Secure Internet servers	130
2.3.3 Government promotion of investment in emerging technologies	83	3.3.3 Availability of local online content	130
4.1.3 PCT patent applications	84	4.3.5 SDG 11: Sustainable Cities and Communities	130
4.2.1 Happiness	84	4.1.6 ICT services exports	131
3.1.3 Online access to financial account	87	4.3.1 SDG 3: Good Health and Well-Being	131
1.3.1 Adoption of emerging technologies	94	1.2.2 Internet domain registrations	132
4.2.2 Freedom to make life choices	98	1.2.4 AI scientific publications	132
		1.1.4 Population covered by at least a 3G mobile network	133
		1.2.1 GitHub commits	133

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Guinea

Network Readiness Index Rank: 122 (out of 134) Score: 28.77

Pillar/sub-pillar	Rank	Score
A. Technology pillar	122	22.01
1st sub-pillar: Access	130	31.20
2nd sub-pillar: Content	119	6.42
3rd sub-pillar: Future Technologies	84	28.42
B. People pillar	118	25.99
1st sub-pillar: Individuals	130	13.00
2nd sub-pillar: Businesses	109	29.79
3rd sub-pillar: Governments	79	35.17

Pillar/sub-pillar	Rank	Score
C. Governance pillar	128	28.17
1st sub-pillar: Trust	129	13.71
2nd sub-pillar: Regulation	111	50.09
3rd sub-pillar: Inclusion	133	20.71
D. Impact pillar	113	38.91
1st sub-pillar: Economy	95	19.35
2nd sub-pillar: Quality of Life	99	57.13
3rd sub-pillar: SDG Contribution	130	40.27

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	122	22.01	
1st sub-pillar: Access	130	31.20	
1.1.1 Mobile tariffs	117	25.29	
1.1.2 Handset prices	115	24.61	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	133	50.29	○
1.1.5 International Internet bandwidth	125	55.83	
1.1.6 Internet access in schools	84	0.00	○
2nd sub-pillar: Content	119	6.42	
1.2.1 GitHub commits	133	0.05	○
1.2.2 Internet domain registrations	132	0.04	○
1.2.3 Mobile apps development	118	25.59	
1.2.4 AI scientific publications	132	0.00	○
3rd sub-pillar: Future Technologies	84	28.42	
1.3.1 Adoption of emerging technologies	94	36.01	
1.3.2 Investment in emerging technologies	53	45.75	

Indicator	Rank	Score	
C. Governance pillar	128	28.17	
1st sub-pillar: Trust	129	13.71	
3.1.1 Secure Internet servers	130	14.91	○
3.1.2 Cybersecurity	116	19.13	
3.1.3 Online access to financial account	87	16.91	
3.1.4 Internet shopping	116	3.88	
2nd sub-pillar: Regulation	111	50.09	
3.2.1 Regulatory quality	124	27.82	
3.2.2 ICT regulatory environment	122	56.82	
3.2.3 Regulation of emerging technologies	110	10.13	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	11	89.04	
3rd sub-pillar: Inclusion	133	20.71	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	107	49.14	
3.3.3 Availability of local online content	130	10.58	○

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	108	3.49	
B. People pillar	118	25.99	
1st sub-pillar: Individuals	130	13.00	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	115	10.95	
2.1.4 Tertiary enrollment	122	2.70	
2.1.5 Adult literacy rate	104	25.35	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	109	29.79	
2.2.1 Firms with website	108	10.98	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	114	7.58	
2.2.4 Annual investment in telecommunication services	112	70.81	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	79	35.17	
2.3.1 Government online services	107	38.34	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	83	32.01	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	105	0.00	○
3.3.5 Rural gap in use of digital payments	121	17.10	
D. Impact pillar	113	38.91	
1st sub-pillar: Economy	95	19.35	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	115	1.38	
4.1.3 PCT patent applications	84	0.94	
4.1.4 Domestic market size	115	35.80	
4.1.5 Prevalence of gig economy	35	58.43	
4.1.6 ICT services exports	131	0.18	○
2nd sub-pillar: Quality of Life	99	57.13	
4.2.1 Happiness	84	55.15	
4.2.2 Freedom to make life choices	98	59.03	
4.2.3 Income inequality	21	83.92	
4.2.4 Healthy life expectancy at birth	128	30.41	○
3rd sub-pillar: SDG Contribution	130	40.27	
4.3.1 SDG 3: Good Health and Well-Being	131	14.73	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	105	62.83	
4.3.4 SDG 7: Affordable and Clean Energy	102	60.12	
4.3.5 SDG 11: Sustainable Cities and Communities	130	23.41	○

NOTE: ● a strength and ○ a weakness.

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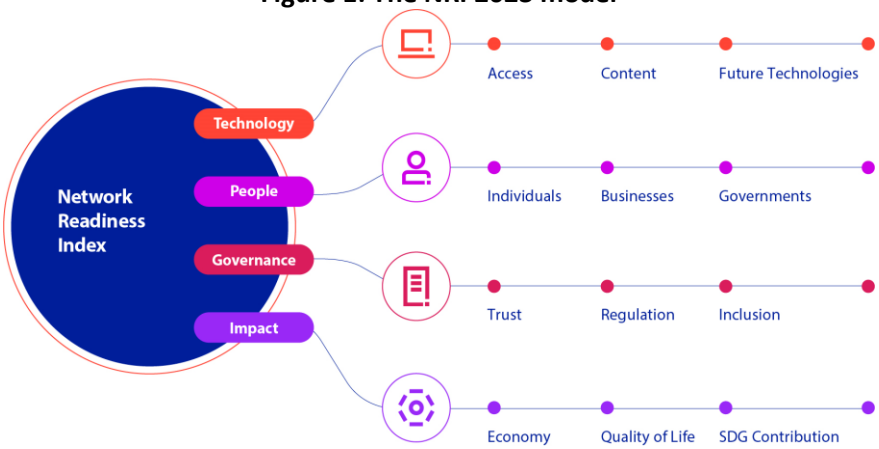
Honduras

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

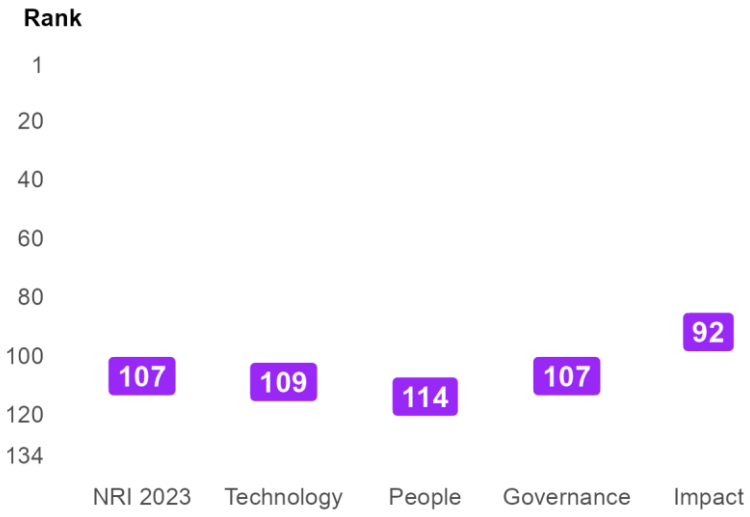
Figure 1: The NRI 2023 model



Global NRI position of Honduras

Honduras ranks 107th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Honduras global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Honduras relate to SDG Contribution, Individuals and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Trust and Governments sub-pillars.

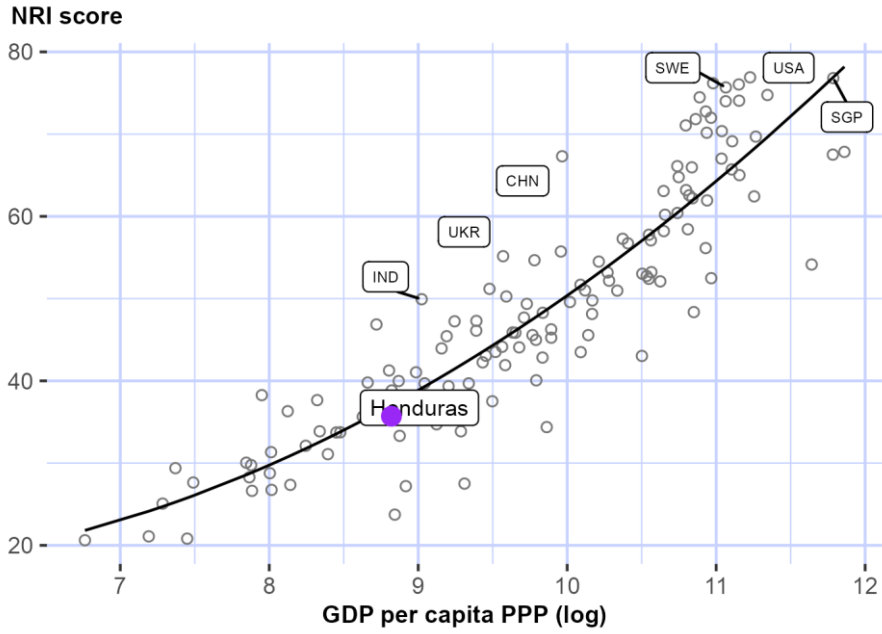
Table 1: Honduras rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	62	Businesses	104
Individuals	80	Content	110
Future Technologies	86	Access	117
Regulation	87	Economy	119
Quality of Life	89	Trust	128
Inclusion	97	Governments	133

NRI score and income

Figure 3 shows the position of Honduras in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Honduras is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Honduras belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

Honduras is ranked 26th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Future Technologies, Individuals, Regulation, Inclusion, Quality of Life and SDG Contribution.

The Americas

Honduras is ranked 20th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Honduras against its income group and region, overall and by pillar

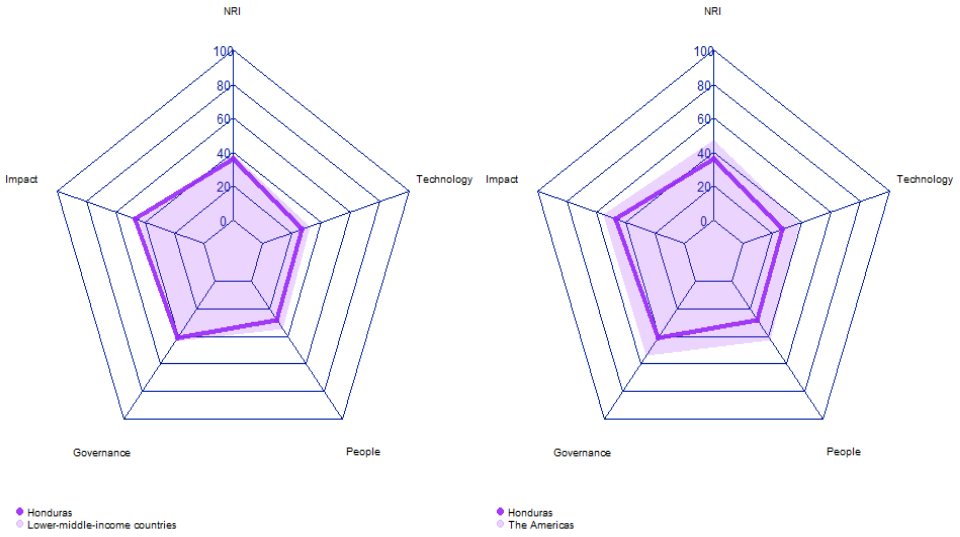


Table 2: Honduras scores vs. averages of its income group and region, overall and by pillar

Dimension	Honduras	Lower-middle-income countries	The Americas
NRI	35.70	38.41	47.41
Technology	27.12	32.12	38.24
People	27.85	34.38	42.35
Governance	40.97	43.27	54.12
Impact	46.86	43.89	54.93

Strongest and weakest indicators

The indicators where Honduras performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 2.1.3 Use of virtual social networks (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 3.3.1 E-Participation, and 2.3.1 Government online services.

Table 3: Highlight of Strengths and Opportunities for Honduras

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.5 GERD performed by business enterprise	86
3.3.4 Gender gap in Internet use	3	2.3.4 R&D expenditure by governments and higher education	110
2.1.3 Use of virtual social networks	7	2.3.1 Government online services	130
3.2.5 Privacy protection by law content	41	3.1.2 Cybersecurity	132
4.2.2 Freedom to make life choices	52	3.3.1 E-Participation	132
4.3.5 SDG 11: Sustainable Cities and Communities	52		
4.2.1 Happiness	60		
2.1.1 Mobile broadband internet traffic within the country	65		
1.3.4 Computer software spending	66		
1.1.5 International Internet bandwidth	67		
4.1.6 ICT services exports	77		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Honduras

Network Readiness Index Rank: 107 (out of 134) Score: 35.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	109	27.12
1st sub-pillar: Access	117	40.80
2nd sub-pillar: Content	110	12.38
3rd sub-pillar: Future Technologies	86	28.19
B. People pillar	114	27.85
1st sub-pillar: Individuals	80	43.66
2nd sub-pillar: Businesses	104	31.35
3rd sub-pillar: Governments	133	8.54

Pillar/sub-pillar	Rank	Score
C. Governance pillar	107	40.97
1st sub-pillar: Trust	128	13.87
2nd sub-pillar: Regulation	87	61.21
3rd sub-pillar: Inclusion	97	47.82
D. Impact pillar	92	46.86
1st sub-pillar: Economy	119	13.67
2nd sub-pillar: Quality of Life	89	61.47
3rd sub-pillar: SDG Contribution	62	65.46

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	109	27.12	
1st sub-pillar: Access	117	40.80	
1.1.1 Mobile tariffs	125	12.72	
1.1.2 Handset prices	102	31.23	
1.1.3 FTTH/building Internet subscriptions	87	20.68	
1.1.4 Population covered by at least a 3G mobile network	120	93.20	
1.1.5 International Internet bandwidth	67	70.83	•
1.1.6 Internet access in schools	70	16.14	
2nd sub-pillar: Content	110	12.38	
1.2.1 GitHub commits	102	1.81	
1.2.2 Internet domain registrations	109	0.46	
1.2.3 Mobile apps development	105	46.90	
1.2.4 AI scientific publications	120	0.35	
3rd sub-pillar: Future Technologies	86	28.19	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	79	35.75	

Indicator	Rank	Score	
C. Governance pillar	107	40.97	
1st sub-pillar: Trust	128	13.87	
3.1.1 Secure Internet servers	103	36.51	
3.1.2 Cybersecurity	132	0.48	○
3.1.3 Online access to financial account	109	9.92	
3.1.4 Internet shopping	99	8.58	
2nd sub-pillar: Regulation	87	61.21	
3.2.1 Regulatory quality	98	37.81	
3.2.2 ICT regulatory environment	79	76.47	
3.2.3 Regulation of emerging technologies	106	17.40	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	41	74.35	•
3rd sub-pillar: Inclusion	97	47.82	
3.3.1 E-Participation	132	8.14	○
3.3.2 Socioeconomic gap in use of digital payments	108	49.12	
3.3.3 Availability of local online content	96	43.51	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	66	20.63	●
B. People pillar		114	27.85	
1st sub-pillar: Individuals		80	43.66	
2.1.1	Mobile broadband internet traffic within the country	65	9.51	●
2.1.2	ICT skills in the education system	96	23.88	
2.1.3	Use of virtual social networks	7	85.24	●
2.1.4	Tertiary enrollment	90	15.34	
2.1.5	Adult literacy rate	69	84.31	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		104	31.35	
2.2.1	Firms with website	75	39.28	
2.2.2	GERD financed by business enterprise	66	26.06	
2.2.3	Knowledge intensive employment	98	15.49	
2.2.4	Annual investment in telecommunication services	82	75.77	
2.2.5	GERD performed by business enterprise	86	0.13	○
3rd sub-pillar: Governments		133	8.54	
2.3.1	Government online services	130	16.19	○
2.3.2	Publication and use of open data	NA	NA	
2.3.3	Government promotion of investment in emerging tech	NA	NA	
2.3.4	R&D expenditure by governments and higher education	110	0.89	○

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	3	83.28	●
3.3.5	Rural gap in use of digital payments	82	55.03	
D. Impact pillar		92	46.86	
1st sub-pillar: Economy		119	13.67	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	99	3.31	
4.1.3	PCT patent applications	93	0.59	
4.1.4	Domestic market size	98	40.61	
4.1.5	Prevalence of gig economy	NA	NA	
4.1.6	ICT services exports	77	10.15	●
2nd sub-pillar: Quality of Life		89	61.47	
4.2.1	Happiness	60	66.57	●
4.2.2	Freedom to make life choices	52	79.33	●
4.2.3	Income inequality	103	37.19	
4.2.4	Healthy life expectancy at birth	92	62.78	
3rd sub-pillar: SDG Contribution		62	65.46	
4.3.1	SDG 3: Good Health and Well-Being	92	56.85	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	101	64.60	
4.3.4	SDG 7: Affordable and Clean Energy	87	66.84	
4.3.5	SDG 11: Sustainable Cities and Communities	52	73.53	●

NOTE: ● a strength and ○ a weakness.

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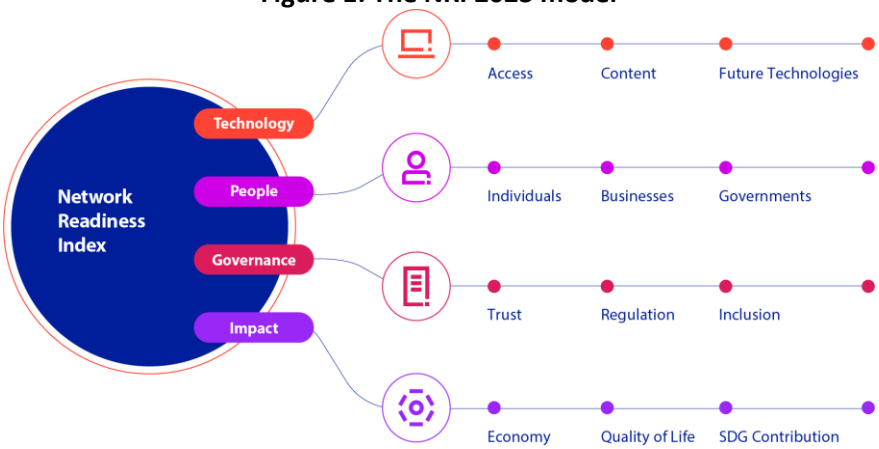
Hong Kong (China)

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

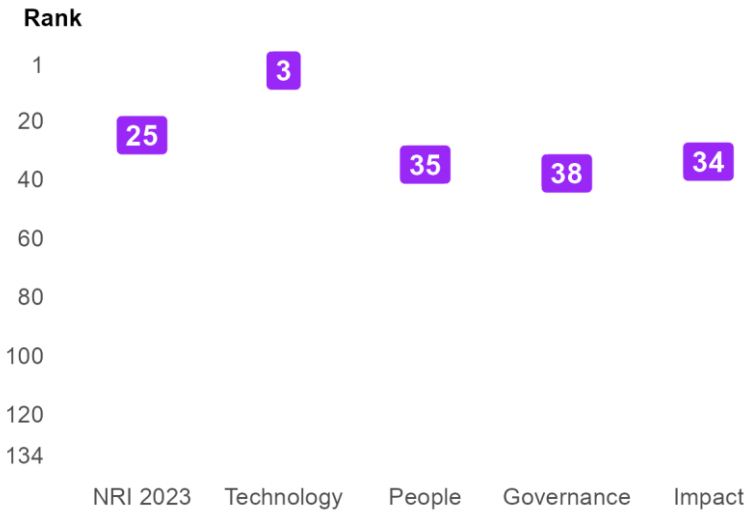
Figure 1: The NRI 2023 model



Global NRI position of Hong Kong (China)

Hong Kong (China) ranks 25th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Hong Kong (China) global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Hong Kong (China) relate to Content, Access and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Regulation and Quality of Life sub-pillars.

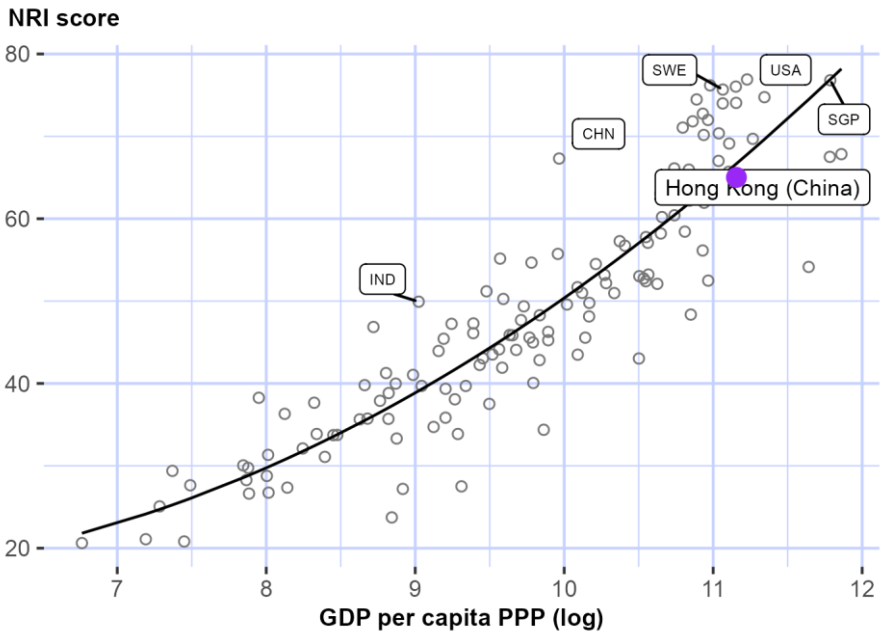
Table 1: Hong Kong (China) rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	1	Inclusion	22
Access	4	Trust	31
SDG Contribution	6	Businesses	41
Future Technologies	17	Governments	42
Individuals	17	Regulation	79
Economy	17	Quality of Life	105

NRI score and income

Figure 3 shows the position of Hong Kong (China) in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Hong Kong (China) is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Hong Kong (China) belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Hong Kong (China) is ranked 24th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: NRI and Technology. At the sub-pillar level, it outperforms high-income countries in seven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Inclusion, Economy and SDG Contribution.

Asia & Pacific

Hong Kong (China) is ranked 7th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of Hong Kong (China) against its income group and region, overall and by pillar

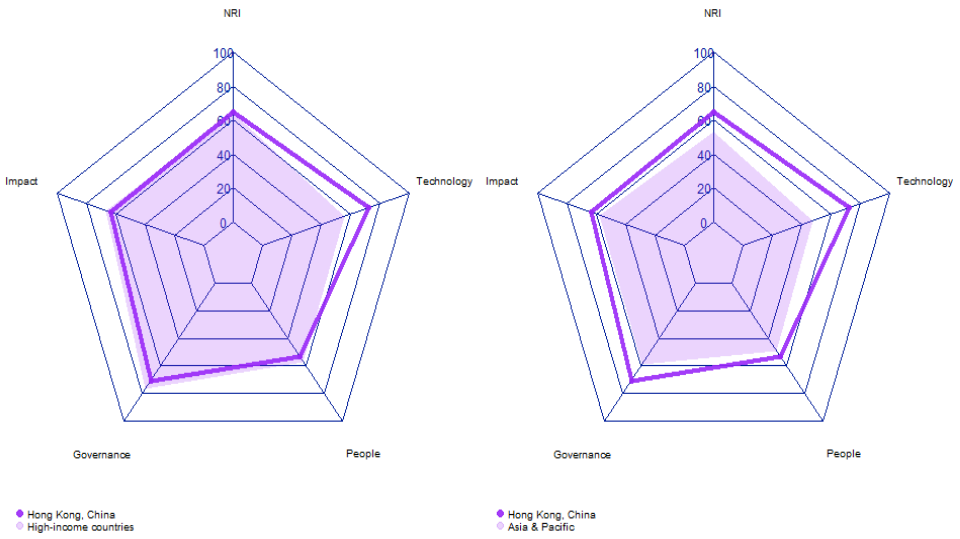


Table 2: Hong Kong (China) scores vs. averages of its income group and region, overall and by pillar

Dimension	Hong Kong (China)	High-income countries	Asia & Pacific
NRI	65.01	64.07	53.28
Technology	72.52	55.76	47.34
People	53.49	56.99	48.95
Governance	70.69	76.81	59.22
Impact	63.35	66.73	57.62

Strongest and weakest indicators

The indicators where Hong Kong (China) performs particularly well include 1.1.5 International Internet bandwidth, 1.1.6 Internet access in schools, and 1.2.1 GitHub commits (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 4.2.2 Freedom to make life choices, and 4.1.6 ICT services exports.

Table 3: Highlight of Strengths and Opportunities for Hong Kong (China)

Strongest indicators	Rank	Weakest indicators	Rank
1.1.5 International Internet bandwidth	1	4.1.1 High-tech and medium-high-tech manufacturing	62
1.1.6 Internet access in schools	1	4.2.1 Happiness	83
1.2.1 GitHub commits	1	4.1.6 ICT services exports	100
4.1.2 High-tech exports	1	4.2.2 Freedom to make life choices	115
4.3.4 SDG 7: Affordable and Clean Energy	2	3.2.5 Privacy protection by law content	133
1.2.3 Mobile apps development	3		
4.3.2 SDG 4: Quality Education	3		
2.1.3 Use of virtual social networks	7		
3.3.3 Availability of local online content	8		
2.3.3 Government promotion of investment in emerging technologies	9		
1.1.1 Mobile tariffs	11		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Hong Kong (China)

Network Readiness Index Rank: 25 (out of 134) Score: 65.01

Pillar/sub-pillar	Rank	Score
A. Technology pillar	3	72.52
1st sub-pillar: Access	4	82.63
2nd sub-pillar: Content	1	77.12
3rd sub-pillar: Future Technologies	17	57.81
B. People pillar	35	53.49
1st sub-pillar: Individuals	17	59.03
2nd sub-pillar: Businesses	41	53.65
3rd sub-pillar: Governments	42	47.80

Pillar/sub-pillar	Rank	Score
C. Governance pillar	38	70.69
1st sub-pillar: Trust	31	70.55
2nd sub-pillar: Regulation	79	62.09
3rd sub-pillar: Inclusion	22	79.44
D. Impact pillar	34	63.35
1st sub-pillar: Economy	17	51.52
2nd sub-pillar: Quality of Life	105	52.08
3rd sub-pillar: SDG Contribution	6	86.46

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	3	72.52	
1st sub-pillar: Access	4	82.63	
1.1.1 Mobile tariffs	11	89.37	●
1.1.2 Handset prices	27	70.93	
1.1.3 FTTH/building Internet subscriptions	47	35.78	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	1	100.00	●
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	1	77.12	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	19	45.28	
1.2.3 Mobile apps development	3	86.07	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	17	57.81	
1.3.1 Adoption of emerging technologies	19	76.65	
1.3.2 Investment in emerging technologies	15	74.75	

Indicator	Rank	Score	
C. Governance pillar	38	70.69	
1st sub-pillar: Trust	31	70.55	
3.1.1 Secure Internet servers	11	89.09	
3.1.2 Cybersecurity	NA	NA	
3.1.3 Online access to financial account	29	52.51	
3.1.4 Internet shopping	23	70.06	
2nd sub-pillar: Regulation	79	62.09	
3.2.1 Regulatory quality	13	85.38	
3.2.2 ICT regulatory environment	64	84.12	
3.2.3 Regulation of emerging technologies	28	67.79	
3.2.4 E-commerce legislation	NA	NA	
3.2.5 Privacy protection by law content	133	11.09	○
3rd sub-pillar: Inclusion	22	79.44	
3.3.1 E-Participation	NA	NA	
3.3.2 Socioeconomic gap in use of digital payments	44	85.93	
3.3.3 Availability of local online content	8	93.27	●

Indicator	Rank	Score	
1.3.3 Robot density	7	45.49	
1.3.4 Computer software spending	26	34.36	
B. People pillar	35	53.49	
1st sub-pillar: Individuals	17	59.03	
2.1.1 Mobile broadband internet traffic within the country	45	17.47	
2.1.2 ICT skills in the education system	17	75.57	
2.1.3 Use of virtual social networks	7	85.24	●
2.1.4 Tertiary enrollment	13	57.86	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	41	53.65	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	32	60.91	
2.2.3 Knowledge intensive employment	28	61.82	
2.2.4 Annual investment in telecommunication services	41	81.94	
2.2.5 GERD performed by business enterprise	45	9.92	
3rd sub-pillar: Governments	42	47.80	
2.3.1 Government online services	NA	NA	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	9	78.30	●
2.3.4 R&D expenditure by governments and higher education	41	17.30	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	57	68.30	
3.3.5 Rural gap in use of digital payments	48	70.25	
D. Impact pillar	34	63.35	
1st sub-pillar: Economy	17	51.52	
4.1.1 High-tech and medium-high-tech manufacturing	62	23.70	○
4.1.2 High-tech exports	1	100.00	●
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	46	60.56	
4.1.5 Prevalence of gig economy	18	68.90	
4.1.6 ICT services exports	100	4.44	○
2nd sub-pillar: Quality of Life	105	52.08	
4.2.1 Happiness	83	55.22	○
4.2.2 Freedom to make life choices	115	48.94	○
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	NA	NA	
3rd sub-pillar: SDG Contribution	6	86.46	
4.3.1 SDG 3: Good Health and Well-Being	NA	NA	
4.3.2 SDG 4: Quality Education	3	80.27	●
4.3.3 SDG 5: Women's economic opportunity	34	88.50	
4.3.4 SDG 7: Affordable and Clean Energy	2	90.61	●
4.3.5 SDG 11: Sustainable Cities and Communities	NA	NA	

NOTE: ● a strength and ○ a weakness.

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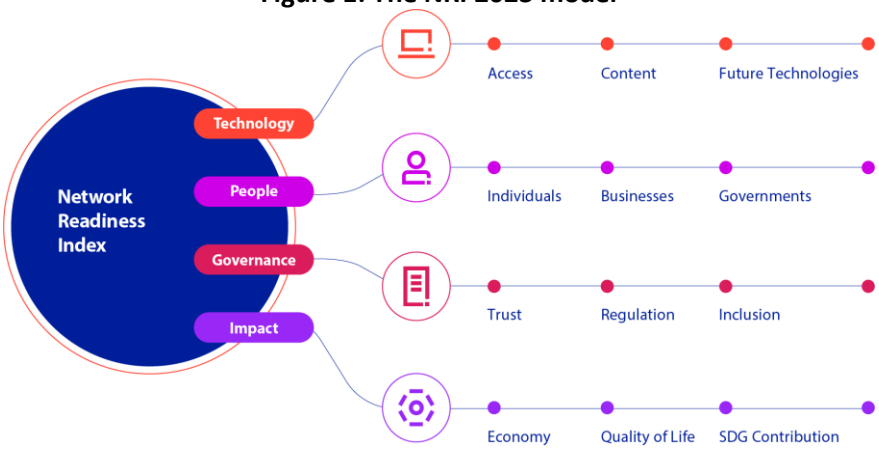
Hungary

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

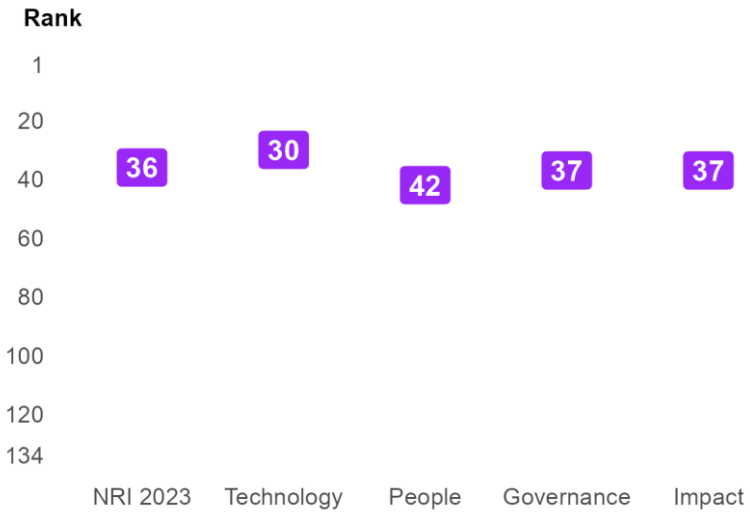
Figure 1: The NRI 2023 model



Global NRI position of Hungary

Hungary ranks 36th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Hungary global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Hungary relate to Content, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Individuals and Future Technologies sub-pillars.

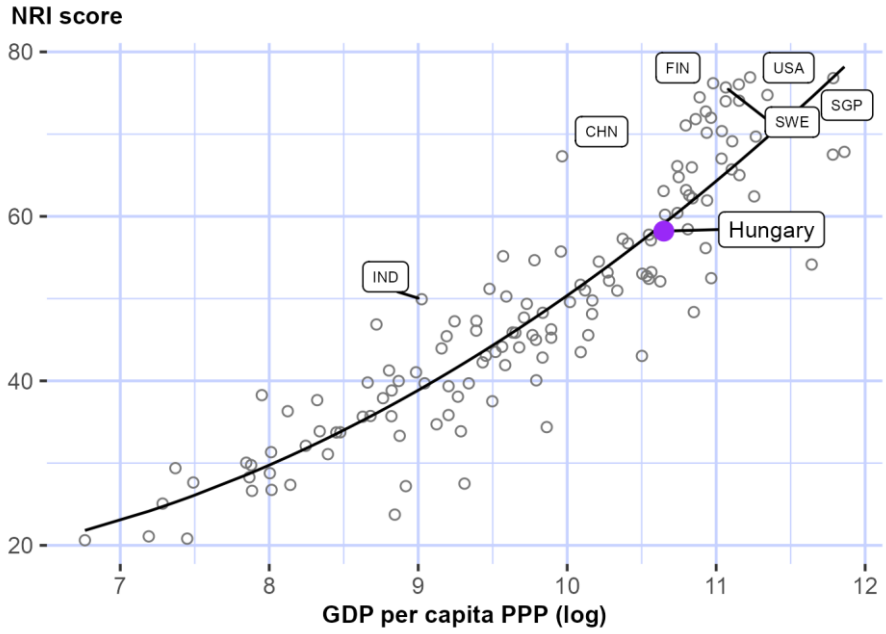
Table 1: Hungary rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	16	SDG Contribution	38
Trust	30	Quality of Life	49
Regulation	33	Governments	55
Access	34	Inclusion	57
Businesses	35	Individuals	68
Economy	38	Future Technologies	77

NRI score and income

Figure 3 shows the position of Hungary in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Hungary is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Hungary belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Hungary is ranked 35th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Access and Content.

Europe

Hungary is ranked 26th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Access, Content and Trust.

Figure 4: Performance of Hungary against its income group and region, overall and by pillar

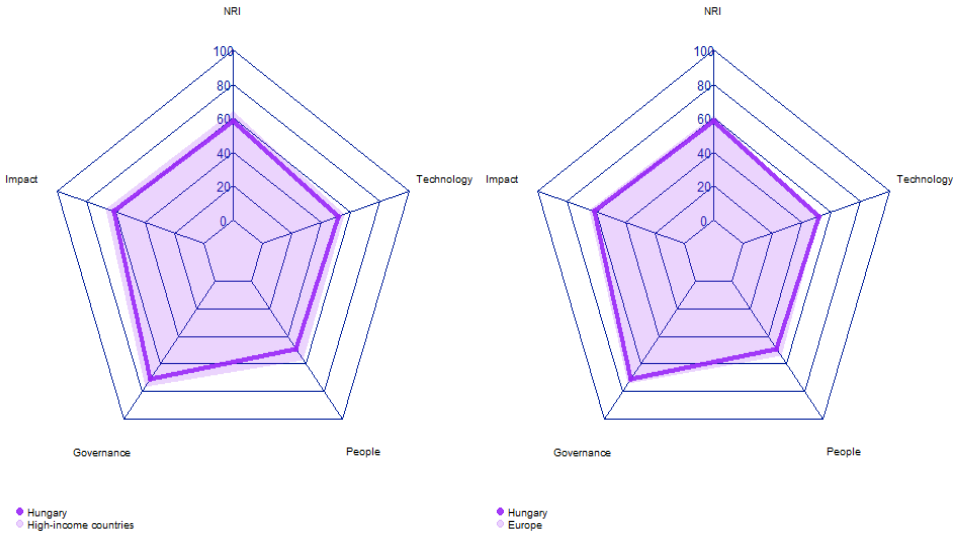


Table 2: Hungary scores vs. averages of its income group and region, overall and by pillar

Dimension	Hungary	High-income countries	Europe
NRI	58.21	64.07	61.25
Technology	51.36	55.76	51.90
People	49.48	56.99	54.16
Governance	70.88	76.81	74.33
Impact	61.11	66.73	64.61

Strongest and weakest indicators

The indicators where Hungary performs particularly well include 1.1.6 Internet access in schools, 1.2.1 GitHub commits, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.1.5 Prevalence of gig economy, and 2.1.2 ICT skills in the education system.

Table 3: Highlight of Strengths and Opportunities for Hungary

Strongest indicators	Rank
1.1.6 Internet access in schools	1
1.2.1 GitHub commits	1
3.2.4 E-commerce legislation	1
4.1.1 High-tech and medium-high-tech manufacturing	5
3.2.2 ICT regulatory environment	14
2.1.5 Adult literacy rate	20
2.2.5 GERD performed by business enterprise	20
4.3.3 SDG 5: Women's economic opportunity	20
3.3.4 Gender gap in Internet use	22
3.1.1 Secure Internet servers	23
4.2.3 Income inequality	23
2.3.4 R&D expenditure by governments and higher education	24

Weakest indicators	Rank
2.3.2 Publication and use of open data	69
2.1.2 ICT skills in the education system	75
4.1.5 Prevalence of gig economy	99
1.3.2 Investment in emerging technologies	102

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Hungary

Network Readiness Index Rank: 36 (out of 134) Score: 58.21

Pillar/sub-pillar	Rank	Score
A. Technology pillar	30	51.36
1st sub-pillar: Access	34	73.97
2nd sub-pillar: Content	16	50.29
3rd sub-pillar: Future Technologies	77	29.81
B. People pillar	42	49.48
1st sub-pillar: Individuals	68	46.99
2nd sub-pillar: Businesses	35	58.94
3rd sub-pillar: Governments	55	42.51

Pillar/sub-pillar	Rank	Score
C. Governance pillar	37	70.88
1st sub-pillar: Trust	30	70.60
2nd sub-pillar: Regulation	33	77.03
3rd sub-pillar: Inclusion	57	65.01
D. Impact pillar	37	61.11
1st sub-pillar: Economy	38	36.39
2nd sub-pillar: Quality of Life	49	73.13
3rd sub-pillar: SDG Contribution	38	73.81

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	30	51.36	
1st sub-pillar: Access	34	73.97	
1.1.1 Mobile tariffs	33	77.46	
1.1.2 Handset prices	41	63.13	
1.1.3 FTTH/building Internet subscriptions	49	34.78	
1.1.4 Population covered by at least a 3G mobile network	55	99.74	
1.1.5 International Internet bandwidth	84	68.69	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	16	50.29	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	29	25.88	
1.2.3 Mobile apps development	60	67.33	
1.2.4 AI scientific publications	57	7.95	
3rd sub-pillar: Future Technologies	77	29.81	
1.3.1 Adoption of emerging technologies	63	47.82	
1.3.2 Investment in emerging technologies	102	28.25	○

Indicator	Rank	Score	
C. Governance pillar	37	70.88	
1st sub-pillar: Trust	30	70.60	
3.1.1 Secure Internet servers	23	82.98	●
3.1.2 Cybersecurity	43	91.13	
3.1.3 Online access to financial account	40	43.79	
3.1.4 Internet shopping	28	64.52	
2nd sub-pillar: Regulation	33	77.03	
3.2.1 Regulatory quality	46	60.81	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	46	56.10	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	42	74.14	
3rd sub-pillar: Inclusion	57	65.01	
3.3.1 E-Participation	75	50.01	
3.3.2 Socioeconomic gap in use of digital payments	55	81.42	
3.3.3 Availability of local online content	58	65.38	

Indicator	Rank	Score	
1.3.3 Robot density	22	17.20	
1.3.4 Computer software spending	51	25.98	
B. People pillar	42	49.48	
1st sub-pillar: Individuals	68	46.99	
2.1.1 Mobile broadband internet traffic within the country	51	13.35	
2.1.2 ICT skills in the education system	75	43.32	○
2.1.3 Use of virtual social networks	60	67.94	
2.1.4 Tertiary enrollment	61	35.39	
2.1.5 Adult literacy rate	20	98.77	●
2.1.6 AI talent concentration	18	23.18	
2nd sub-pillar: Businesses	35	58.94	
2.2.1 Firms with website	46	62.29	
2.2.2 GERD financed by business enterprise	28	62.13	
2.2.3 Knowledge intensive employment	31	58.62	
2.2.4 Annual investment in telecommunication services	51	79.85	
2.2.5 GERD performed by business enterprise	20	31.83	●
3rd sub-pillar: Governments	55	42.51	
2.3.1 Government online services	56	71.98	
2.3.2 Publication and use of open data	69	22.06	○
2.3.3 Government promotion of investment in emerging tech	47	46.51	
2.3.4 R&D expenditure by governments and higher education	24	29.50	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	22	72.83	●
3.3.5 Rural gap in use of digital payments	80	55.43	
D. Impact pillar	37	61.11	
1st sub-pillar: Economy	38	36.39	
4.1.1 High-tech and medium-high-tech manufacturing	5	74.27	●
4.1.2 High-tech exports	29	29.25	
4.1.3 PCT patent applications	35	12.83	
4.1.4 Domestic market size	52	58.25	
4.1.5 Prevalence of gig economy	99	27.33	○
4.1.6 ICT services exports	60	16.41	
2nd sub-pillar: Quality of Life	49	73.13	
4.2.1 Happiness	69	65.26	
4.2.2 Freedom to make life choices	82	66.73	
4.2.3 Income inequality	23	83.67	●
4.2.4 Healthy life expectancy at birth	47	76.88	
3rd sub-pillar: SDG Contribution	38	73.81	
4.3.1 SDG 3: Good Health and Well-Being	59	72.65	
4.3.2 SDG 4: Quality Education	33	59.29	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	●
4.3.4 SDG 7: Affordable and Clean Energy	63	73.34	
4.3.5 SDG 11: Sustainable Cities and Communities	62	68.19	

NOTE: ● a strength and ○ a weakness.

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Iceland

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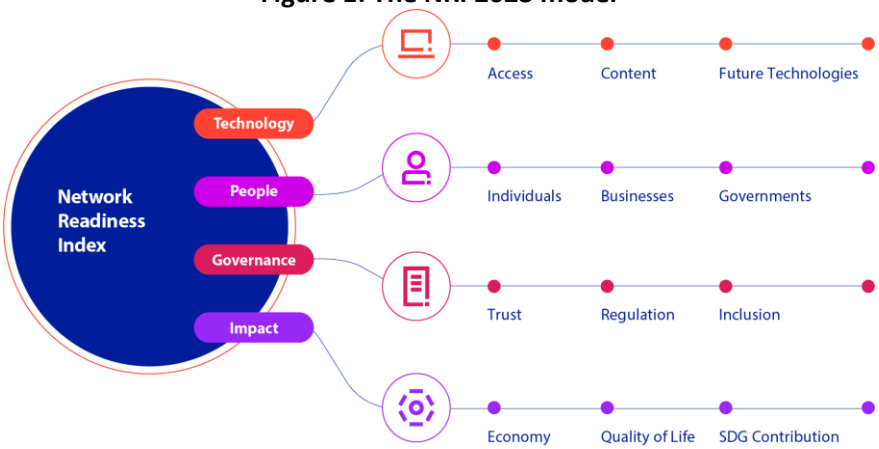
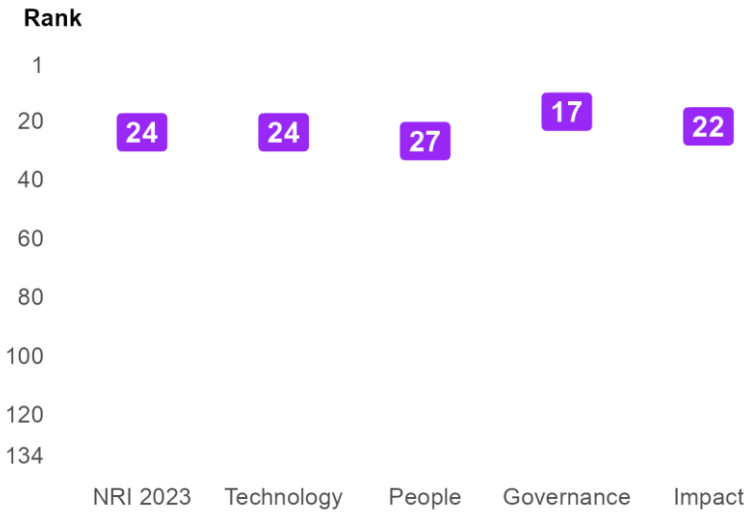
Figure 1: The NRI 2023 model



Global NRI position of Iceland

Iceland ranks 24th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Iceland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Iceland relate to Quality of Life, Content and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Access and Individuals sub-pillars.

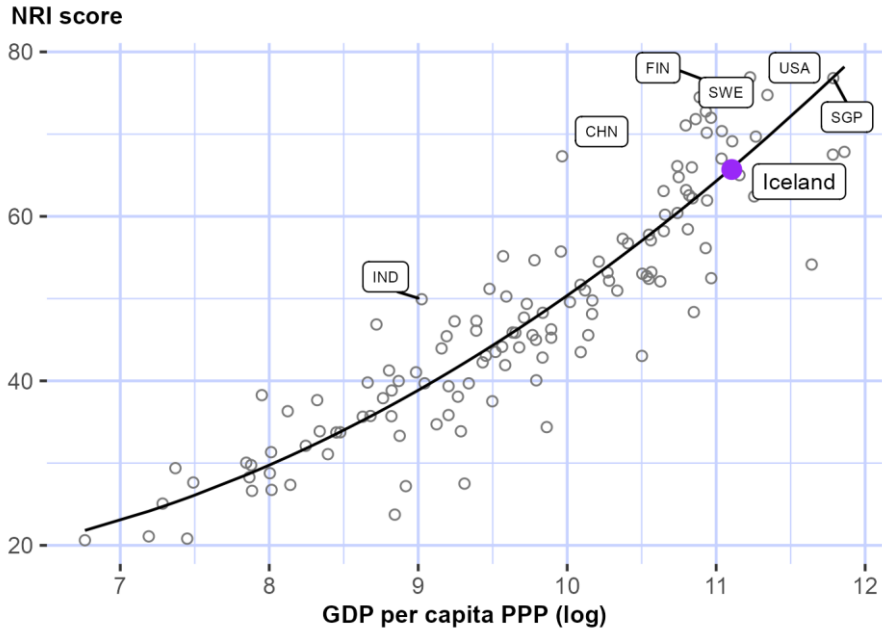
Table 1: Iceland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	2	Economy	29
Content	10	Future Technologies	33
Trust	12	Regulation	34
Inclusion	13	SDG Contribution	43
Businesses	20	Access	61
Governments	24	Individuals	73

NRI score and income

Figure 3 shows the position of Iceland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Iceland is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Iceland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Iceland is ranked 23rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Content, Businesses, Trust, Inclusion and Quality of Life.

Europe

Iceland is ranked 16th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eight of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Iceland against its income group and region, overall and by pillar

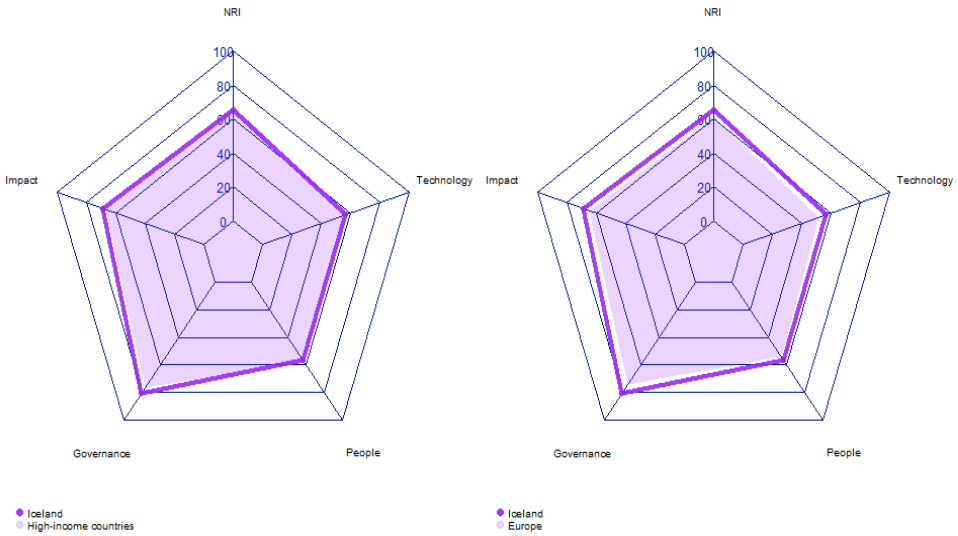


Table 2: Iceland scores vs. averages of its income group and region, overall and by pillar

Dimension	Iceland	High-income countries	Europe
NRI	65.70	64.07	61.25
Technology	56.36	55.76	51.90
People	56.62	56.99	54.16
Governance	81.02	76.81	74.33
Impact	68.80	66.73	64.61

Strongest and weakest indicators

The indicators where Iceland performs particularly well include 1.2.2 Internet domain registrations, 4.3.3 SDG 5: Women's economic opportunity, and 4.3.5 SDG 11: Sustainable Cities and Communities (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.4 Domestic market size, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Iceland

Strongest indicators	Rank	Weakest indicators	Rank
1.2.2 Internet domain registrations	1	3.2.4 E-commerce legislation	87
4.3.3 SDG 5: Women's economic opportunity	1	1.1.3 FTTH/building Internet subscriptions	108
4.3.5 SDG 11: Sustainable Cities and Communities	1	1.2.4 AI scientific publications	115
3.3.2 Socioeconomic gap in use of digital payments	4	4.1.4 Domestic market size	128
4.2.1 Happiness	4	4.3.4 SDG 7: Affordable and Clean Energy	133
2.2.3 Knowledge intensive employment	6		
4.1.2 High-tech exports	7		
4.3.1 SDG 3: Good Health and Well-Being	7		
4.2.3 Income inequality	8		
4.2.2 Freedom to make life choices	9		
4.2.4 Healthy life expectancy at birth	9		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Iceland

Network Readiness Index Rank: 24 (out of 134) Score: 65.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	24	56.36
1st sub-pillar: Access	61	66.69
2nd sub-pillar: Content	10	56.48
3rd sub-pillar: Future Technologies	33	45.92
B. People pillar	27	56.62
1st sub-pillar: Individuals	73	46.24
2nd sub-pillar: Businesses	20	67.16
3rd sub-pillar: Governments	24	56.47

Pillar/sub-pillar	Rank	Score
C. Governance pillar	17	81.02
1st sub-pillar: Trust	12	84.07
2nd sub-pillar: Regulation	34	76.63
3rd sub-pillar: Inclusion	13	82.35
D. Impact pillar	22	68.80
1st sub-pillar: Economy	29	40.51
2nd sub-pillar: Quality of Life	2	93.45
3rd sub-pillar: SDG Contribution	43	72.44

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	24	56.36	
1st sub-pillar: Access	61	66.69	
1.1.1 Mobile tariffs	26	81.24	
1.1.2 Handset prices	16	79.11	
1.1.3 FTTH/building Internet subscriptions	108	9.93	○
1.1.4 Population covered by at least a 3G mobile network	25	99.99	
1.1.5 International Internet bandwidth	105	63.17	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	10	56.48	
1.2.1 GitHub commits	13	66.41	
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	89	59.02	
1.2.4 AI scientific publications	115	0.49	○
3rd sub-pillar: Future Technologies	33	45.92	
1.3.1 Adoption of emerging technologies	16	78.69	
1.3.2 Investment in emerging technologies	24	65.75	

Indicator	Rank	Score	
C. Governance pillar	17	81.02	
1st sub-pillar: Trust	12	84.07	
3.1.1 Secure Internet servers	10	89.63	
3.1.2 Cybersecurity	66	79.45	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	11	83.12	
2nd sub-pillar: Regulation	34	76.63	
3.2.1 Regulatory quality	16	84.27	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	23	74.03	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	51	71.14	
3rd sub-pillar: Inclusion	13	82.35	
3.3.1 E-Participation	17	79.08	
3.3.2 Socioeconomic gap in use of digital payments	4	99.45	●
3.3.3 Availability of local online content	33	79.33	

Indicator	Rank	Score	
1.3.3 Robot density	29	9.43	
1.3.4 Computer software spending	39	29.79	
B. People pillar	27	56.62	
1st sub-pillar: Individuals	73	46.24	
2.1.1 Mobile broadband internet traffic within the country	99	2.16	
2.1.2 ICT skills in the education system	11	82.26	
2.1.3 Use of virtual social networks	22	78.01	
2.1.4 Tertiary enrollment	19	55.04	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	30	13.73	
2nd sub-pillar: Businesses	20	67.16	
2.2.1 Firms with website	15	84.42	
2.2.2 GERD financed by business enterprise	43	47.76	
2.2.3 Knowledge intensive employment	6	80.54	●
2.2.4 Annual investment in telecommunication services	106	71.65	
2.2.5 GERD performed by business enterprise	12	51.42	
3rd sub-pillar: Governments	24	56.47	
2.3.1 Government online services	16	87.48	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	46	46.93	
2.3.4 R&D expenditure by governments and higher education	13	50.30	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	26	71.55	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	22	68.80	
1st sub-pillar: Economy	29	40.51	
4.1.1 High-tech and medium-high-tech manufacturing	78	15.97	
4.1.2 High-tech exports	7	60.50	●
4.1.3 PCT patent applications	18	42.44	
4.1.4 Domestic market size	128	29.56	○
4.1.5 Prevalence of gig economy	29	62.21	
4.1.6 ICT services exports	27	32.36	
2nd sub-pillar: Quality of Life	2	93.45	
4.2.1 Happiness	4	94.79	●
4.2.2 Freedom to make life choices	9	93.39	●
4.2.3 Income inequality	8	92.71	●
4.2.4 Healthy life expectancy at birth	9	92.92	●
3rd sub-pillar: SDG Contribution	43	72.44	
4.3.1 SDG 3: Good Health and Well-Being	7	95.84	●
4.3.2 SDG 4: Quality Education	30	60.14	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	133	6.21	○
4.3.5 SDG 11: Sustainable Cities and Communities	1	100.00	●

NOTE: ● a strength and ○ a weakness.

Sources

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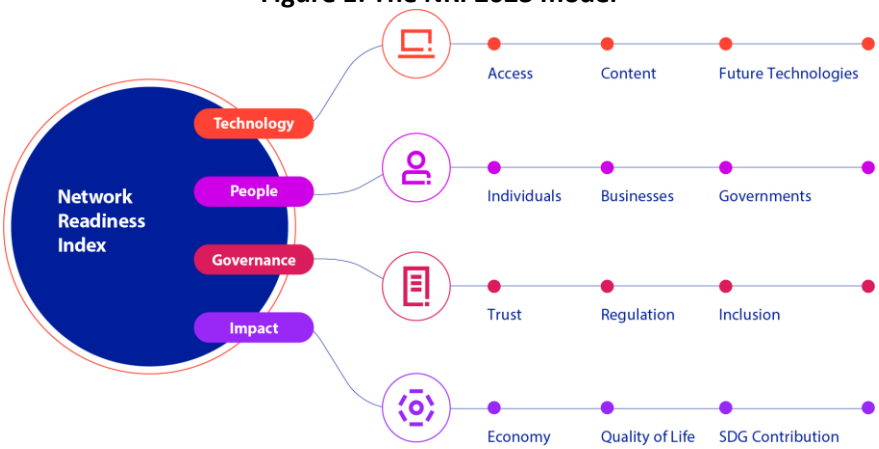
India

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

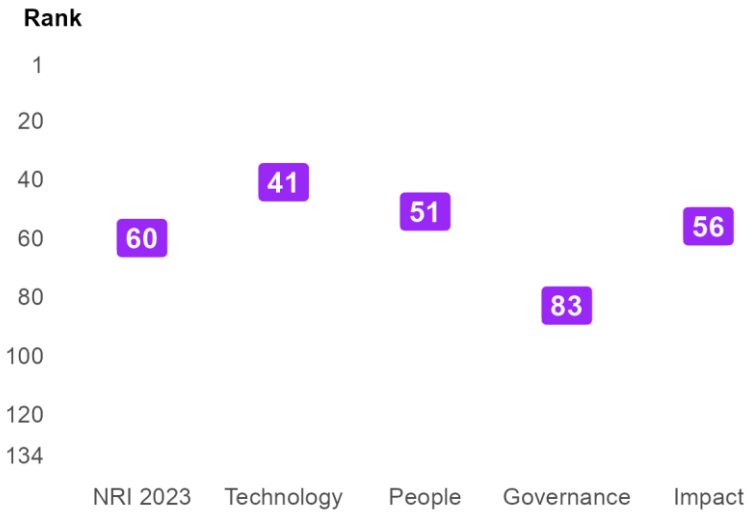
Figure 1: The NRI 2023 model



Global NRI position of India

India ranks 60th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: India global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of India relate to Economy, Content and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Quality of Life and Inclusion sub-pillars.

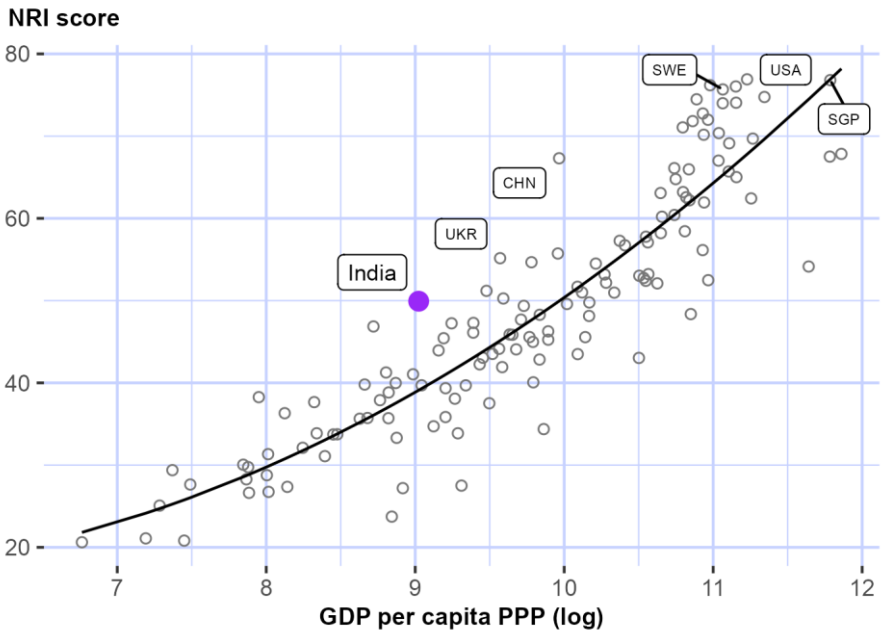
Table 1: India rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	18	Trust	72
Content	29	Regulation	75
Individuals	37	Businesses	78
Governments	46	SDG Contribution	92
Access	49	Quality of Life	95
Future Technologies	58	Inclusion	103

NRI score and income

Figure 3 shows the position of India in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, India is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). India belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

India is ranked 3rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

India is ranked 12th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Technology. With regard to sub-pillars, it outperforms the average in Asia & Pacific in five of the twelve sub-pillars: Access, Content, Individuals, Regulation and Economy.

Figure 4: Performance of India against its income group and region, overall and by pillar

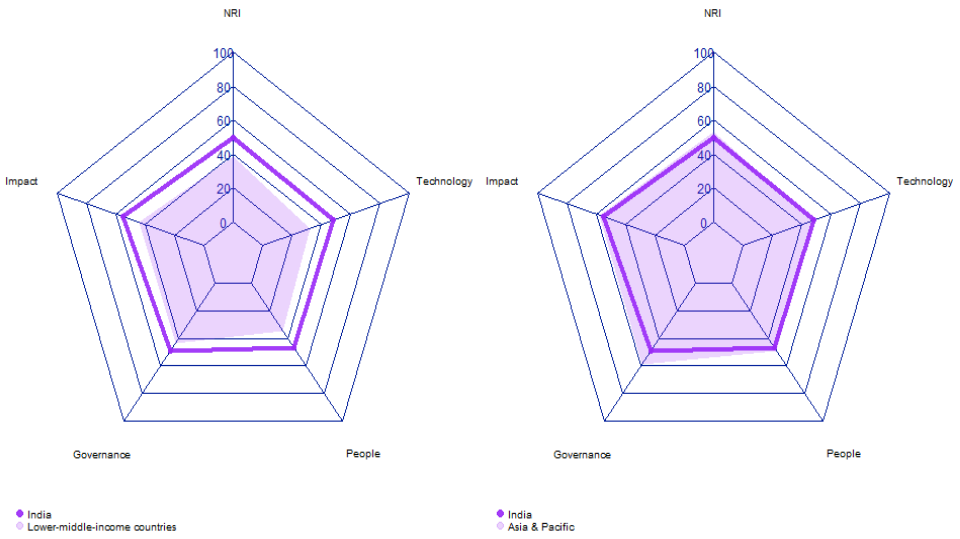


Table 2: India scores vs. averages of its income group and region, overall and by pillar

Dimension	India	Lower-middle-income countries	Asia & Pacific
NRI	49.93	38.41	53.28
Technology	48.44	32.12	47.34
People	46.95	34.38	48.95
Governance	49.41	43.27	59.22
Impact	54.90	43.89	57.62

Strongest and weakest indicators

The indicators where India performs particularly well include 2.1.6 AI talent concentration, 4.1.6 ICT services exports, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.1.3 Online access to financial account, 4.2.1 Happiness, and 3.3.4 Gender gap in Internet use.

Table 3: Highlight of Strengths and Opportunities for India

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 AI talent concentration	1	3.2.4 E-commerce legislation	87
4.1.6 ICT services exports	1	2.1.2 ICT skills in the education system	100
1.1.3 FTTH/building Internet subscriptions	2	3.3.4 Gender gap in Internet use	104
1.1.5 International Internet bandwidth	2	4.2.1 Happiness	117
1.2.4 AI scientific publications	2	3.1.3 Online access to financial account	119
2.1.1 Mobile broadband internet traffic within the country	2		
2.2.4 Annual investment in telecommunication services	3		
4.1.4 Domestic market size	3		
3.1.2 Cybersecurity	15		
1.3.2 Investment in emerging technologies	26		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: India

Network Readiness Index — Rank: 60 (out of 134) — Score: 49.93

Pillar/sub-pillar	Rank	Score
A. Technology pillar	41	48.44
1st sub-pillar: Access	49	69.85
2nd sub-pillar: Content	29	40.46
3rd sub-pillar: Future Technologies	58	35.02
B. People pillar	51	46.95
1st sub-pillar: Individuals	37	53.26
2nd sub-pillar: Businesses	78	41.84
3rd sub-pillar: Governments	46	45.74

Pillar/sub-pillar	Rank	Score
C. Governance pillar	83	49.41
1st sub-pillar: Trust	72	40.37
2nd sub-pillar: Regulation	75	62.84
3rd sub-pillar: Inclusion	103	45.01
D. Impact pillar	56	54.90
1st sub-pillar: Economy	18	49.56
2nd sub-pillar: Quality of Life	95	59.54
3rd sub-pillar: SDG Contribution	92	55.62

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	41	48.44	
1st sub-pillar: Access	49	69.85	
1.1.1 Mobile tariffs	53	68.66	
1.1.2 Handset prices	51	56.73	
1.1.3 FTTH/building Internet subscriptions	2	76.53	•
1.1.4 Population covered by at least a 3G mobile network	68	99.61	
1.1.5 International Internet bandwidth	2	96.96	•
1.1.6 Internet access in schools	68	20.60	
2nd sub-pillar: Content	29	40.46	
1.2.1 GitHub commits	73	4.48	
1.2.2 Internet domain registrations	100	0.91	
1.2.3 Mobile apps development	34	73.58	
1.2.4 AI scientific publications	2	82.87	•
3rd sub-pillar: Future Technologies	58	35.02	
1.3.1 Adoption of emerging technologies	53	51.54	
1.3.2 Investment in emerging technologies	26	64.25	•

Indicator	Rank	Score	
C. Governance pillar	83	49.41	
1st sub-pillar: Trust	72	40.37	
3.1.1 Secure Internet servers	70	49.16	
3.1.2 Cybersecurity	15	97.46	•
3.1.3 Online access to financial account	119	5.99	○
3.1.4 Internet shopping	97	8.89	
2nd sub-pillar: Regulation	75	62.84	
3.2.1 Regulatory quality	75	47.82	
3.2.2 ICT regulatory environment	70	83.53	
3.2.3 Regulation of emerging technologies	34	64.42	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	91	51.79	
3rd sub-pillar: Inclusion	103	45.01	
3.3.1 E-Participation	61	58.14	
3.3.2 Socioeconomic gap in use of digital payments	99	54.30	
3.3.3 Availability of local online content	72	58.17	

Indicator		Rank	Score	
1.3.3	Robot density	49	0.93	
1.3.4	Computer software spending	56	23.35	
B. People pillar		51	46.95	
1st sub-pillar: Individuals		37	53.26	
2.1.1	Mobile broadband internet traffic within the country	2	92.67	●
2.1.2	ICT skills in the education system	100	19.58	○
2.1.3	Use of virtual social networks	102	29.42	
2.1.4	Tertiary enrollment	85	19.81	
2.1.5	Adult literacy rate	93	58.09	
2.1.6	AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses		78	41.84	
2.2.1	Firms with website	72	42.86	
2.2.2	GERD financed by business enterprise	40	50.17	
2.2.3	Knowledge intensive employment	96	16.64	
2.2.4	Annual investment in telecommunication services	3	93.47	●
2.2.5	GERD performed by business enterprise	49	6.04	
3rd sub-pillar: Governments		46	45.74	
2.3.1	Government online services	42	77.17	
2.3.2	Publication and use of open data	22	58.82	
2.3.3	Government promotion of investment in emerging tech	70	35.50	
2.3.4	R&D expenditure by governments and higher education	55	11.49	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	104	4.84	○
3.3.5	Rural gap in use of digital payments	92	49.60	
D. Impact pillar		56	54.90	
1st sub-pillar: Economy		18	49.56	
4.1.1	High-tech and medium-high-tech manufacturing	35	42.23	
4.1.2	High-tech exports	47	18.28	
4.1.3	PCT patent applications	43	8.53	
4.1.4	Domestic market size	3	90.81	●
4.1.5	Prevalence of gig economy	71	37.50	
4.1.6	ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life		95	59.54	
4.2.1	Happiness	117	29.34	○
4.2.2	Freedom to make life choices	29	86.31	
4.2.3	Income inequality	54	68.59	
4.2.4	Healthy life expectancy at birth	101	53.91	
3rd sub-pillar: SDG Contribution		92	55.62	
4.3.1	SDG 3: Good Health and Well-Being	96	53.96	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	103	63.72	
4.3.4	SDG 7: Affordable and Clean Energy	79	68.35	
4.3.5	SDG 11: Sustainable Cities and Communities	115	36.45	

NOTE: ● a strength and ○ a weakness.

Sources

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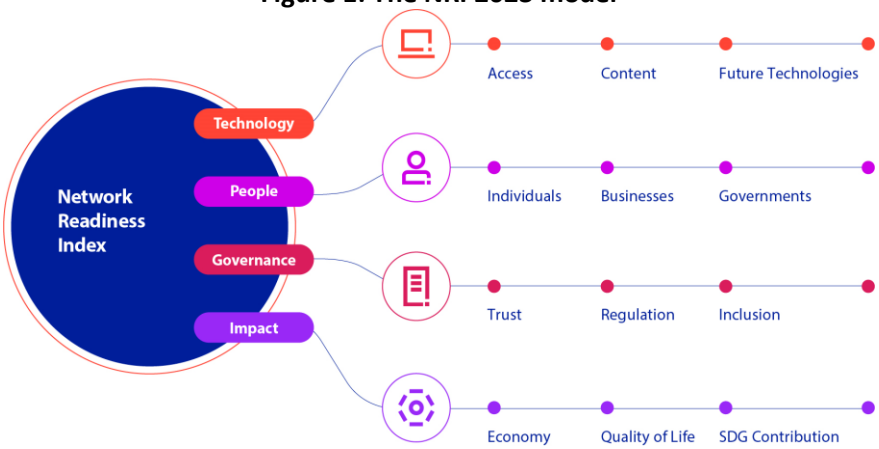
Indonesia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

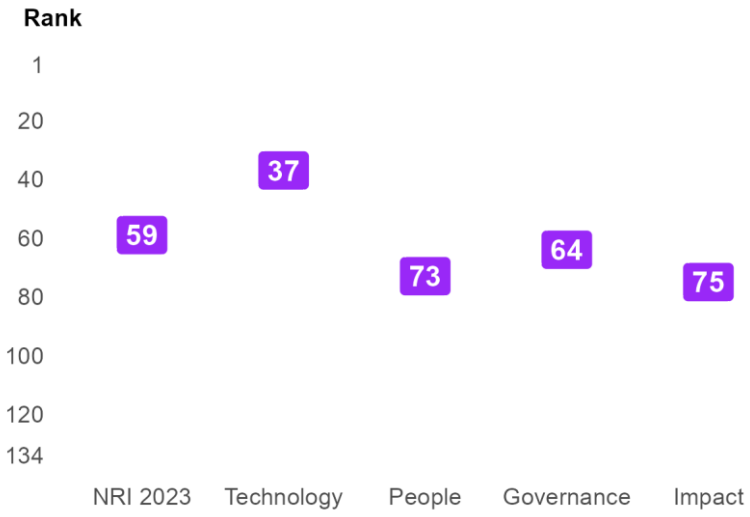
Figure 1: The NRI 2023 model



Global NRI position of Indonesia

Indonesia ranks 59th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Indonesia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Indonesia relate to Access, Individuals and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, SDG Contribution and Businesses sub-pillars.

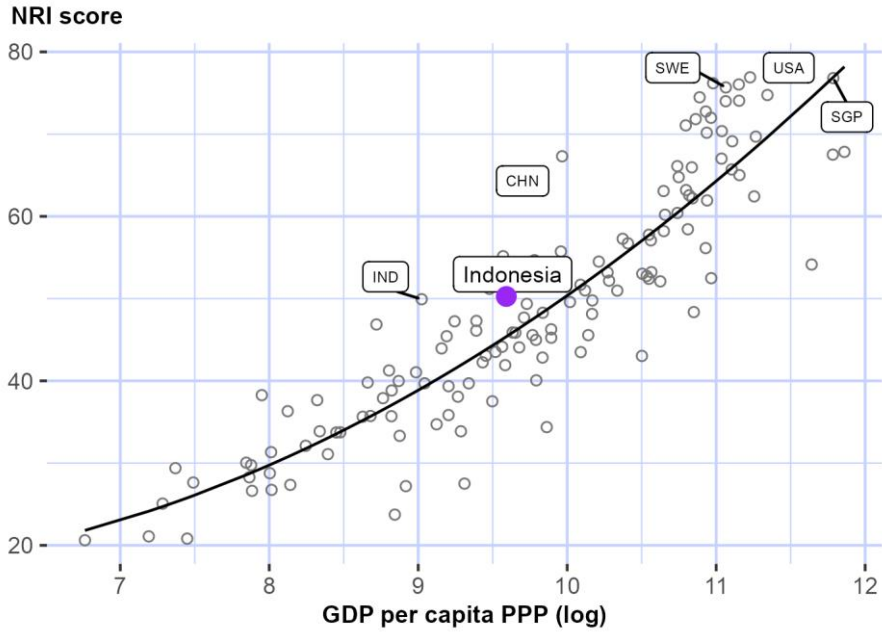
Table 1: Indonesia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	18	Trust	64
Individuals	29	Quality of Life	65
Content	43	Inclusion	66
Future Technologies	45	Regulation	72
Governments	47	SDG Contribution	99
Economy	48	Businesses	118

NRI score and income

Figure 3 shows the position of Indonesia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Indonesia is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Indonesia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

Indonesia is ranked 11th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, Technology and Governance. At the sub-pillar level, it outperforms upper-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Inclusion, Economy and Quality of Life.

Asia & Pacific

Indonesia is ranked 11th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Technology. With regard to sub-pillars, it outperforms the average in Asia & Pacific in four of the twelve sub-pillars: Access, Individuals, Regulation and Quality of Life.

Figure 4: Performance of Indonesia against its income group and region, overall and by pillar

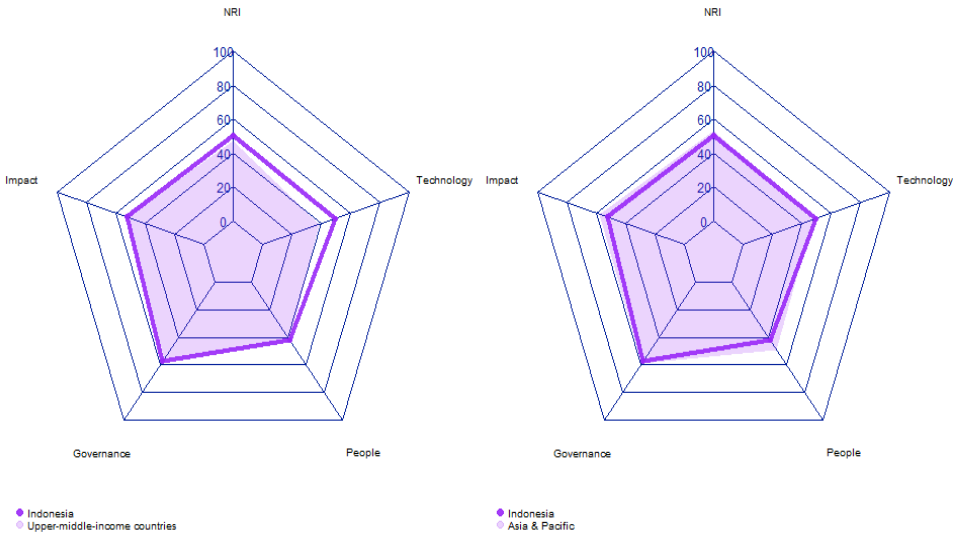


Table 2: Indonesia scores vs. averages of its income group and region, overall and by pillar

Dimension	Indonesia	Upper-middle-income countries	Asia & Pacific
NRI	50.26	47.35	53.28
Technology	49.35	38.48	47.34
People	41.94	42.59	48.95
Governance	57.59	55.90	59.22
Impact	52.16	52.43	57.62

Strongest and weakest indicators

The indicators where Indonesia performs particularly well include 3.2.4 E-commerce legislation, 1.2.4 AI scientific publications, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 3.3.5 Rural gap in use of digital payments, and 2.2.1 Firms with website.

Table 3: Highlight of Strengths and Opportunities for Indonesia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	51
1.2.4 AI scientific publications	4	4.3.2 SDG 4: Quality Education	69
2.1.1 Mobile broadband internet traffic within the country	4	2.2.1 Firms with website	106
1.1.5 International Internet bandwidth	5	3.3.5 Rural gap in use of digital payments	111
2.1.2 ICT skills in the education system	5	3.2.2 ICT regulatory environment	123
1.1.3 FTTH/building Internet subscriptions	7		
4.1.4 Domestic market size	7		
2.2.4 Annual investment in telecommunication services	14		
4.1.5 Prevalence of gig economy	17		
4.2.2 Freedom to make life choices	23		
1.3.4 Computer software spending	25		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Indonesia

Network Readiness Index Rank: 59 (out of 134) Score: 50.26

Pillar/sub-pillar	Rank	Score
A. Technology pillar	37	49.35
1st sub-pillar: Access	18	76.59
2nd sub-pillar: Content	43	31.79
3rd sub-pillar: Future Technologies	45	39.66
B. People pillar	73	41.94
1st sub-pillar: Individuals	29	55.35
2nd sub-pillar: Businesses	118	25.01
3rd sub-pillar: Governments	47	45.46

Pillar/sub-pillar	Rank	Score
C. Governance pillar	64	57.59
1st sub-pillar: Trust	64	47.60
2nd sub-pillar: Regulation	72	63.44
3rd sub-pillar: Inclusion	66	61.72
D. Impact pillar	75	52.16
1st sub-pillar: Economy	48	34.29
2nd sub-pillar: Quality of Life	65	68.36
3rd sub-pillar: SDG Contribution	99	53.83

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	37	49.35	
1st sub-pillar: Access	18	76.59	
1.1.1 Mobile tariffs	39	75.32	
1.1.2 Handset prices	61	50.22	
1.1.3 FTTH/building Internet subscriptions	7	67.28	•
1.1.4 Population covered by at least a 3G mobile network	83	98.99	
1.1.5 International Internet bandwidth	5	91.10	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	43	31.79	
1.2.1 GitHub commits	59	8.42	
1.2.2 Internet domain registrations	91	1.40	
1.2.3 Mobile apps development	61	67.17	
1.2.4 AI scientific publications	4	50.18	•
3rd sub-pillar: Future Technologies	45	39.66	
1.3.1 Adoption of emerging technologies	41	59.47	
1.3.2 Investment in emerging technologies	28	62.75	

Indicator	Rank	Score	
C. Governance pillar	64	57.59	
1st sub-pillar: Trust	64	47.60	
3.1.1 Secure Internet servers	57	60.20	
3.1.2 Cybersecurity	31	94.79	
3.1.3 Online access to financial account	95	14.96	
3.1.4 Internet shopping	69	20.45	
2nd sub-pillar: Regulation	72	63.44	
3.2.1 Regulatory quality	55	56.34	
3.2.2 ICT regulatory environment	123	56.47	○
3.2.3 Regulation of emerging technologies	37	62.60	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	114	41.77	
3rd sub-pillar: Inclusion	66	61.72	
3.3.1 E-Participation	37	70.93	
3.3.2 Socioeconomic gap in use of digital payments	60	78.99	
3.3.3 Availability of local online content	46	70.19	

Indicator	Rank	Score	
1.3.3 Robot density	51	0.70	○
1.3.4 Computer software spending	25	35.74	●
B. People pillar	73	41.94	
1st sub-pillar: Individuals	29	55.35	
2.1.1 Mobile broadband internet traffic within the country	4	61.91	●
2.1.2 ICT skills in the education system	5	87.76	●
2.1.3 Use of virtual social networks	79	56.40	
2.1.4 Tertiary enrollment	80	22.67	
2.1.5 Adult literacy rate	43	94.54	
2.1.6 AI talent concentration	37	8.80	
2nd sub-pillar: Businesses	118	25.01	
2.2.1 Firms with website	106	12.71	○
2.2.2 GERD financed by business enterprise	78	9.86	
2.2.3 Knowledge intensive employment	103	13.22	
2.2.4 Annual investment in telecommunication services	14	88.88	●
2.2.5 GERD performed by business enterprise	81	0.40	
3rd sub-pillar: Governments	47	45.46	
2.3.1 Government online services	51	73.96	
2.3.2 Publication and use of open data	36	42.65	
2.3.3 Government promotion of investment in emerging tech	25	60.36	
2.3.4 R&D expenditure by governments and higher education	81	4.88	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	88	57.51	
3.3.5 Rural gap in use of digital payments	111	30.99	○
D. Impact pillar	75	52.16	
1st sub-pillar: Economy	48	34.29	
4.1.1 High-tech and medium-high-tech manufacturing	39	36.43	
4.1.2 High-tech exports	62	12.82	
4.1.3 PCT patent applications	98	0.09	
4.1.4 Domestic market size	7	80.48	●
4.1.5 Prevalence of gig economy	17	69.77	●
4.1.6 ICT services exports	93	6.16	
2nd sub-pillar: Quality of Life	65	68.36	
4.2.1 Happiness	77	60.12	
4.2.2 Freedom to make life choices	23	87.99	●
4.2.3 Income inequality	66	63.07	
4.2.4 Healthy life expectancy at birth	94	62.27	
3rd sub-pillar: SDG Contribution	99	53.83	
4.3.1 SDG 3: Good Health and Well-Being	99	49.89	
4.3.2 SDG 4: Quality Education	69	19.51	○
4.3.3 SDG 5: Women's economic opportunity	110	58.41	
4.3.4 SDG 7: Affordable and Clean Energy	41	77.02	
4.3.5 SDG 11: Sustainable Cities and Communities	70	64.30	

NOTE: ● a strength and ○ a weakness.

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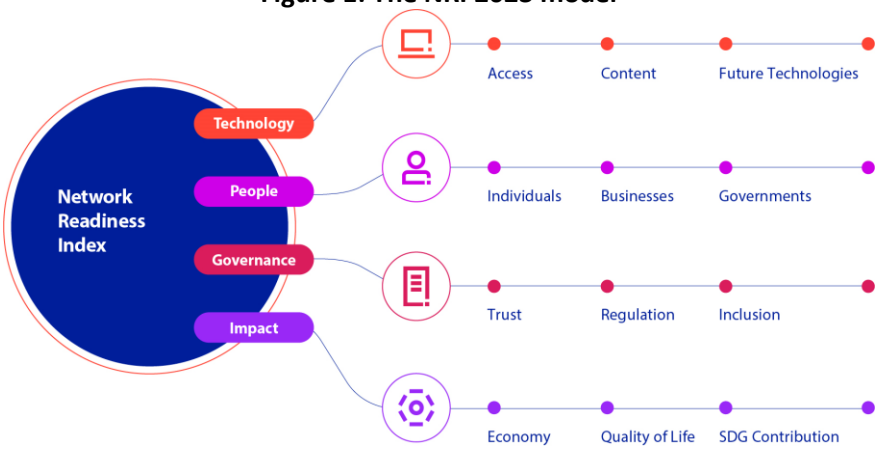
Iran, Islamic Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

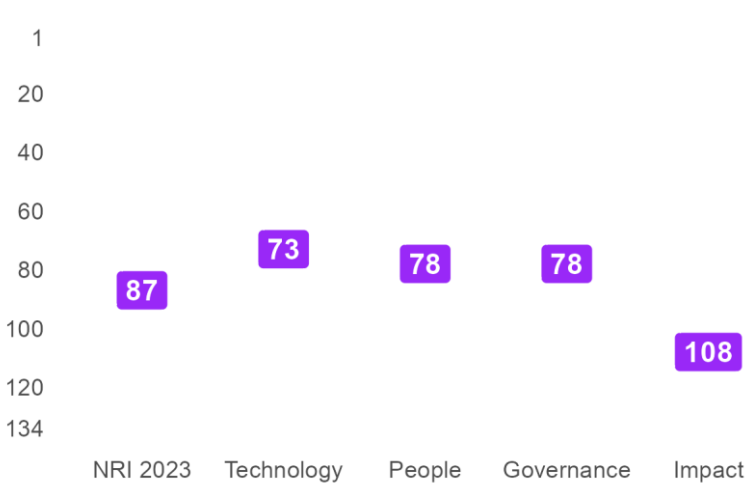
Figure 1: The NRI 2023 model



Global NRI position of Iran, Islamic Rep.

Iran, Islamic Rep. ranks 87th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Iran, Islamic Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Iran, Islamic Rep. relate to Future Technologies, Individuals and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, SDG Contribution and Regulation sub-pillars.

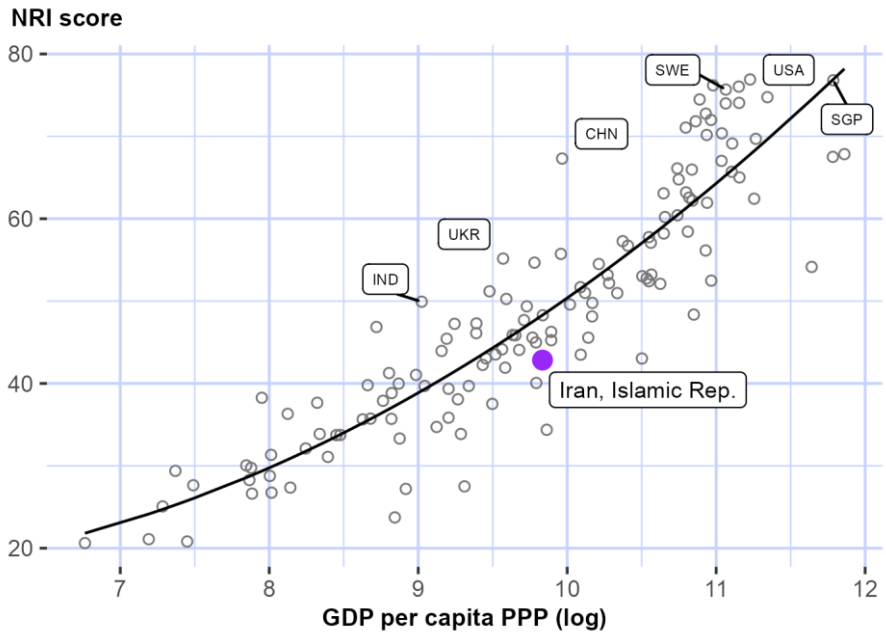
Table 1: Iran, Islamic Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	42	Businesses	80
Individuals	49	Governments	96
Trust	49	Access	103
Content	52	Quality of Life	104
Inclusion	72	SDG Contribution	118
Economy	79	Regulation	123

NRI score and income

Figure 3 shows the position of Iran, Islamic Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Iran, Islamic Rep. is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Iran, Islamic Rep. belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Iran, Islamic Rep. is ranked 12th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Governance. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion and Economy.

Asia & Pacific

Iran, Islamic Rep. is ranked 16th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Trust.

Figure 4: Performance of Iran, Islamic Rep. against its income group and region, overall and by pillar

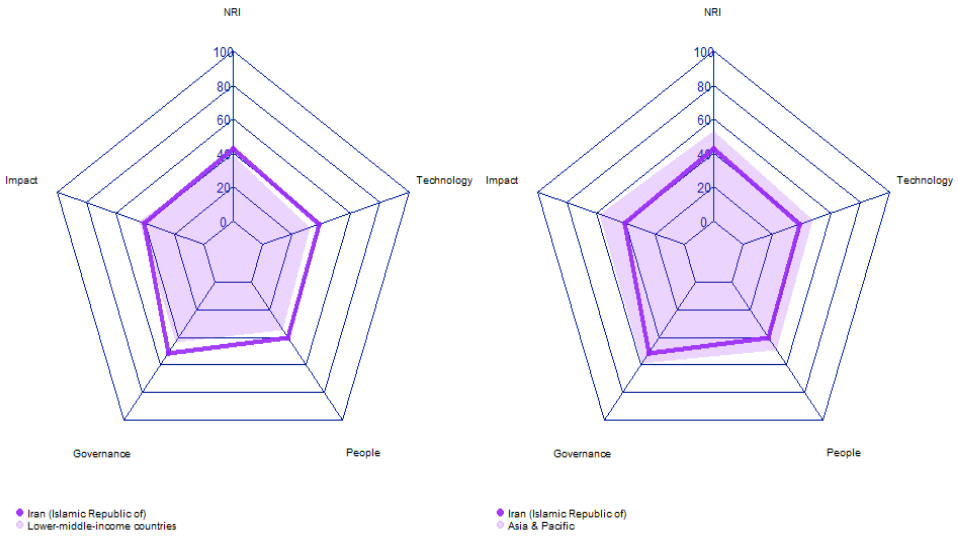


Table 2: Iran, Islamic Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Iran, Islamic Rep.	Lower-middle-income countries	Asia & Pacific
NRI	42.83	38.41	53.28
Technology	38.86	32.12	47.34
People	39.99	34.38	48.95
Governance	51.58	43.27	59.22
Impact	40.91	43.89	57.62

Strongest and weakest indicators

The indicators where Iran, Islamic Rep. performs particularly well include 1.2.4 AI scientific publications, 3.3.5 Rural gap in use of digital payments, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.2.1 Regulatory quality, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Highlight of Strengths and Opportunities for Iran, Islamic Rep.

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	5	3.3.1 E-Participation	127
3.3.5 Rural gap in use of digital payments	9	4.3.4 SDG 7: Affordable and Clean Energy	129
2.1.1 Mobile broadband internet traffic within the country	14	3.2.1 Regulatory quality	133
2.2.4 Annual investment in telecommunication services	15	4.3.3 SDG 5: Women's economic opportunity	133
1.3.4 Computer software spending	16	3.2.5 Privacy protection by law content	134
1.1.5 International Internet bandwidth	20		
4.1.4 Domestic market size	20		
3.1.3 Online access to financial account	33		
3.3.2 Socioeconomic gap in use of digital payments	39		
4.3.1 SDG 3: Good Health and Well-Being	43		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Iran, Islamic Rep.

Network Readiness Index Rank: 87 (out of 134) Score: 42.83

Pillar/sub-pillar	Rank	Score
A. Technology pillar	73	38.86
1st sub-pillar: Access	103	47.66
2nd sub-pillar: Content	52	27.39
3rd sub-pillar: Future Technologies	42	41.52
B. People pillar	78	39.99
1st sub-pillar: Individuals	49	51.41
2nd sub-pillar: Businesses	80	40.70
3rd sub-pillar: Governments	96	27.87

Pillar/sub-pillar	Rank	Score
C. Governance pillar	78	51.58
1st sub-pillar: Trust	49	57.26
2nd sub-pillar: Regulation	123	37.54
3rd sub-pillar: Inclusion	72	59.93
D. Impact pillar	108	40.91
1st sub-pillar: Economy	79	23.96
2nd sub-pillar: Quality of Life	104	52.66
3rd sub-pillar: SDG Contribution	118	46.10

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	73	38.86	
1st sub-pillar: Access	103	47.66	
1.1.1 Mobile tariffs	79	54.10	
1.1.2 Handset prices	118	21.62	
1.1.3 FTTH/building Internet subscriptions	80	24.28	
1.1.4 Population covered by at least a 3G mobile network	114	94.47	
1.1.5 International Internet bandwidth	20	80.92	•
1.1.6 Internet access in schools	71	10.55	
2nd sub-pillar: Content	52	27.39	
1.2.1 GitHub commits	104	1.80	
1.2.2 Internet domain registrations	61	4.87	
1.2.3 Mobile apps development	90	58.57	
1.2.4 AI scientific publications	5	44.33	•
3rd sub-pillar: Future Technologies	42	41.52	
1.3.1 Adoption of emerging technologies	82	39.26	
1.3.2 Investment in emerging technologies	104	27.75	

Indicator	Rank	Score	
C. Governance pillar	78	51.58	
1st sub-pillar: Trust	49	57.26	
3.1.1 Secure Internet servers	55	61.87	
3.1.2 Cybersecurity	62	80.74	
3.1.3 Online access to financial account	33	50.73	•
3.1.4 Internet shopping	55	35.68	
2nd sub-pillar: Regulation	123	37.54	
3.2.1 Regulatory quality	133	12.95	○
3.2.2 ICT regulatory environment	58	84.71	
3.2.3 Regulation of emerging technologies	101	23.38	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	134	0.00	○
3rd sub-pillar: Inclusion	72	59.93	
3.3.1 E-Participation	127	16.28	○
3.3.2 Socioeconomic gap in use of digital payments	39	88.98	•
3.3.3 Availability of local online content	91	47.84	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	16	57.55	●
B. People pillar	78	39.99	
1st sub-pillar: Individuals	49	51.41	
2.1.1 Mobile broadband internet traffic within the country	14	44.46	●
2.1.2 ICT skills in the education system	78	40.37	
2.1.3 Use of virtual social networks	86	50.15	
2.1.4 Tertiary enrollment	54	37.46	
2.1.5 Adult literacy rate	68	84.63	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	80	40.70	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	73	27.99	
2.2.4 Annual investment in telecommunication services	15	88.78	●
2.2.5 GERD performed by business enterprise	52	5.32	
3rd sub-pillar: Governments	96	27.87	
2.3.1 Government online services	111	35.85	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	76	33.74	
2.3.4 R&D expenditure by governments and higher education	46	14.03	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	60	67.81	
3.3.5 Rural gap in use of digital payments	9	78.75	●
D. Impact pillar	108	40.91	
1st sub-pillar: Economy	79	23.96	
4.1.1 High-tech and medium-high-tech manufacturing	43	34.91	
4.1.2 High-tech exports	119	1.07	
4.1.3 PCT patent applications	41	8.84	
4.1.4 Domestic market size	20	71.52	●
4.1.5 Prevalence of gig economy	101	26.16	
4.1.6 ICT services exports	124	1.28	
2nd sub-pillar: Quality of Life	104	52.66	
4.2.1 Happiness	90	48.81	
4.2.2 Freedom to make life choices	123	32.56	
4.2.3 Income inequality	84	55.53	
4.2.4 Healthy life expectancy at birth	61	73.75	
3rd sub-pillar: SDG Contribution	118	46.10	
4.3.1 SDG 3: Good Health and Well-Being	43	79.11	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	133	2.65	○
4.3.4 SDG 7: Affordable and Clean Energy	129	34.39	○
4.3.5 SDG 11: Sustainable Cities and Communities	61	68.25	

NOTE: ● a strength and ○ a weakness.

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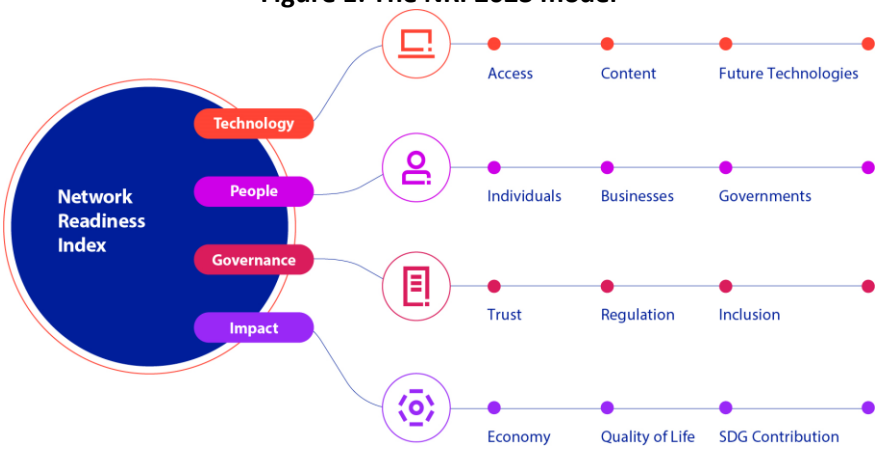
Ireland

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

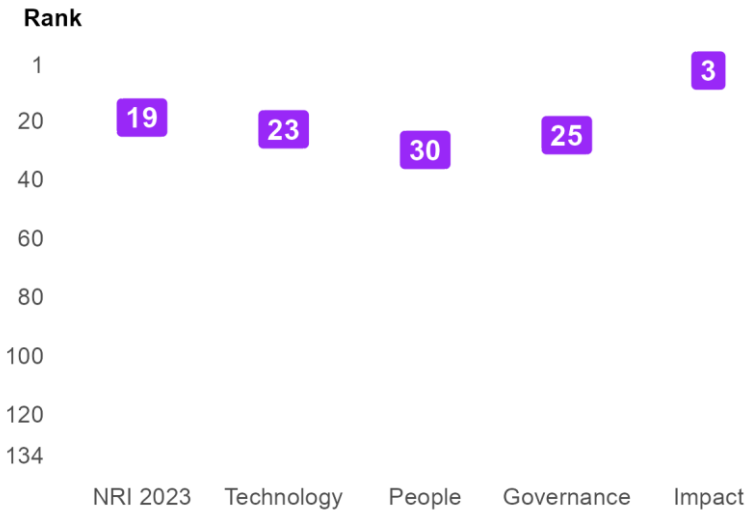
Figure 1: The NRI 2023 model



Global NRI position of Ireland

Ireland ranks 19th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Ireland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ireland relate to SDG Contribution, Economy and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Governments and Individuals sub-pillars.

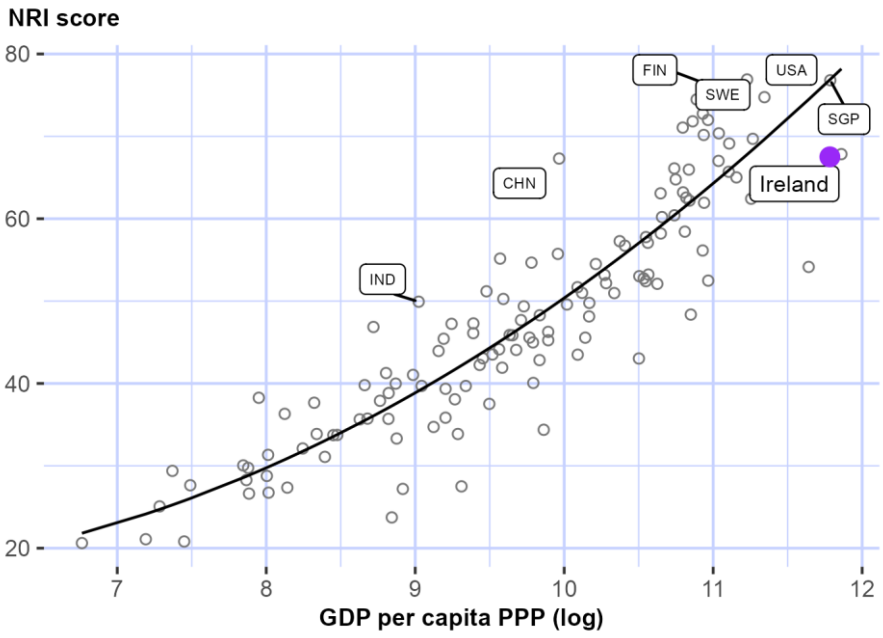
Table 1: Ireland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	1	Access	27
Economy	5	Content	27
Quality of Life	12	Inclusion	27
Businesses	18	Regulation	29
Trust	19	Governments	33
Future Technologies	22	Individuals	58

NRI score and income

Figure 3 shows the position of Ireland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ireland is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Ireland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Ireland is ranked 19th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms high-income countries in eight of the twelve sub-pillars: Access, Future Technologies, Businesses, Trust, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Ireland is ranked 13th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Ireland against its income group and region, overall and by pillar

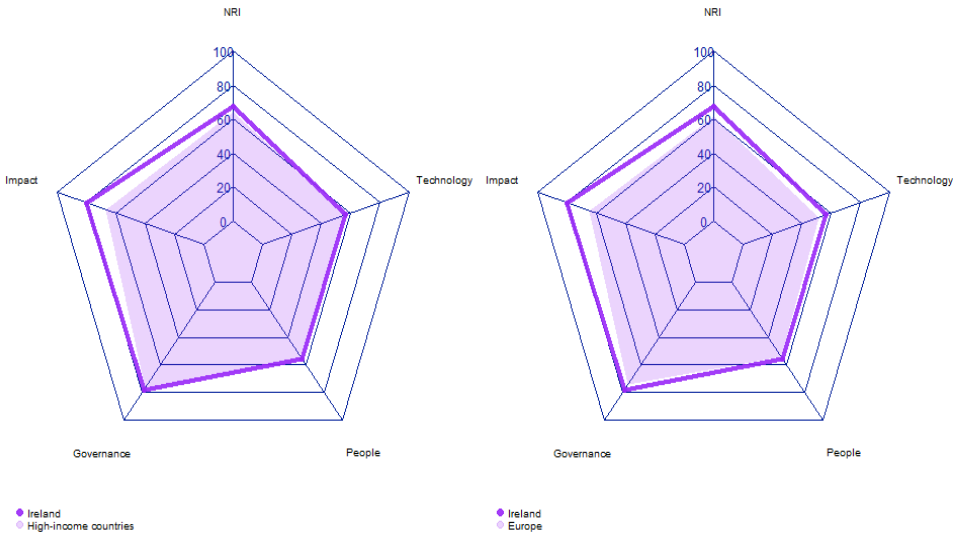


Table 2: Ireland scores vs. averages of its income group and region, overall and by pillar

Dimension	Ireland	High-income countries	Europe
NRI	67.51	64.07	61.25
Technology	56.58	55.76	51.90
People	55.58	56.99	54.16
Governance	78.29	76.81	74.33
Impact	79.58	66.73	64.61

Strongest and weakest indicators

The indicators where Ireland performs particularly well include 1.1.1 Mobile tariffs, 3.2.4 E-commerce legislation, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 3.2.5 Privacy protection by law content, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Highlight of Strengths and Opportunities for Ireland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.1 Mobile tariffs	1	1.1.5 International Internet bandwidth	91
3.2.4 E-commerce legislation	1	1.1.4 Population covered by at least a 3G mobile network	93
4.1.6 ICT services exports	1	3.2.5 Privacy protection by law content	97
4.3.3 SDG 5: Women's economic opportunity	1	1.1.3 FTTH/building Internet subscriptions	99
1.1.2 Handset prices	2		
3.2.2 ICT regulatory environment	3		
4.3.5 SDG 11: Sustainable Cities and Communities	4		
4.3.4 SDG 7: Affordable and Clean Energy	5		
3.1.1 Secure Internet servers	6		
4.1.1 High-tech and medium-high-tech manufacturing	6		
2.1.2 ICT skills in the education system	7		
3.1.4 Internet shopping	12		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Ireland

Network Readiness Index Rank: 19 (out of 134) Score: 67.51

Pillar/sub-pillar	Rank	Score
A. Technology pillar	23	56.58
1st sub-pillar: Access	27	75.36
2nd sub-pillar: Content	27	42.93
3rd sub-pillar: Future Technologies	22	51.46
B. People pillar	30	55.58
1st sub-pillar: Individuals	58	49.10
2nd sub-pillar: Businesses	18	67.45
3rd sub-pillar: Governments	33	50.20

Pillar/sub-pillar	Rank	Score
C. Governance pillar	25	78.29
1st sub-pillar: Trust	19	78.03
2nd sub-pillar: Regulation	29	79.21
3rd sub-pillar: Inclusion	27	77.64
D. Impact pillar	3	79.58
1st sub-pillar: Economy	5	63.15
2nd sub-pillar: Quality of Life	12	86.36
3rd sub-pillar: SDG Contribution	1	89.21

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	23	56.58	
1st sub-pillar: Access	27	75.36	
1.1.1 Mobile tariffs	1	100.00	●
1.1.2 Handset prices	2	97.58	●
1.1.3 FTTH/building Internet subscriptions	99	14.18	○
1.1.4 Population covered by at least a 3G mobile network	93	98.31	○
1.1.5 International Internet bandwidth	91	66.74	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	27	42.93	
1.2.1 GitHub commits	21	53.14	
1.2.2 Internet domain registrations	21	40.90	
1.2.3 Mobile apps development	29	74.37	
1.2.4 AI scientific publications	76	3.29	
3rd sub-pillar: Future Technologies	22	51.46	
1.3.1 Adoption of emerging technologies	26	71.34	
1.3.2 Investment in emerging technologies	18	70.50	
1.3.3 Robot density	31	8.68	

Indicator	Rank	Score	
C. Governance pillar	25	78.29	
1st sub-pillar: Trust	19	78.03	
3.1.1 Secure Internet servers	6	93.04	●
3.1.2 Cybersecurity	54	85.61	
3.1.3 Online access to financial account	32	50.93	
3.1.4 Internet shopping	12	82.53	●
2nd sub-pillar: Regulation	29	79.21	
3.2.1 Regulatory quality	14	84.89	
3.2.2 ICT regulatory environment	3	97.65	●
3.2.3 Regulation of emerging technologies	35	63.38	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	97	50.16	○
3rd sub-pillar: Inclusion	27	77.64	
3.3.1 E-Participation	47	67.44	
3.3.2 Socioeconomic gap in use of digital payments	25	93.94	
3.3.3 Availability of local online content	38	77.16	
3.3.4 Gender gap in Internet use	12	75.18	

Indicator	Rank	Score	
1.3.4 Computer software spending	17	55.34	
B. People pillar	30	55.58	
1st sub-pillar: Individuals	58	49.10	
2.1.1 Mobile broadband internet traffic within the country	78	6.67	
2.1.2 ICT skills in the education system	7	84.01	●
2.1.3 Use of virtual social networks	33	75.37	
2.1.4 Tertiary enrollment	27	48.57	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	12	30.90	
2nd sub-pillar: Businesses	18	67.45	
2.2.1 Firms with website	16	84.18	
2.2.2 GERD financed by business enterprise	10	77.66	
2.2.3 Knowledge intensive employment	16	72.41	
2.2.4 Annual investment in telecommunication services	46	81.46	
2.2.5 GERD performed by business enterprise	29	21.56	
3rd sub-pillar: Governments	33	50.20	
2.3.1 Government online services	45	75.64	
2.3.2 Publication and use of open data	30	48.53	
2.3.3 Government promotion of investment in emerging tech	27	57.76	
2.3.4 R&D expenditure by governments and higher education	38	18.86	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	31	74.48	
D. Impact pillar	3	79.58	
1st sub-pillar: Economy	5	63.15	
4.1.1 High-tech and medium-high-tech manufacturing	6	73.90	●
4.1.2 High-tech exports	14	46.06	
4.1.3 PCT patent applications	22	34.33	
4.1.4 Domestic market size	39	63.00	
4.1.5 Prevalence of gig economy	31	61.63	
4.1.6 ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life	12	86.36	
4.2.1 Happiness	17	84.02	
4.2.2 Freedom to make life choices	28	86.62	
4.2.3 Income inequality	18	84.92	
4.2.4 Healthy life expectancy at birth	17	89.89	
3rd sub-pillar: SDG Contribution	1	89.21	
4.3.1 SDG 3: Good Health and Well-Being	24	89.29	
4.3.2 SDG 4: Quality Education	10	69.61	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	5	89.81	●
4.3.5 SDG 11: Sustainable Cities and Communities	4	97.34	●

NOTE: ● a strength and ○ a weakness.

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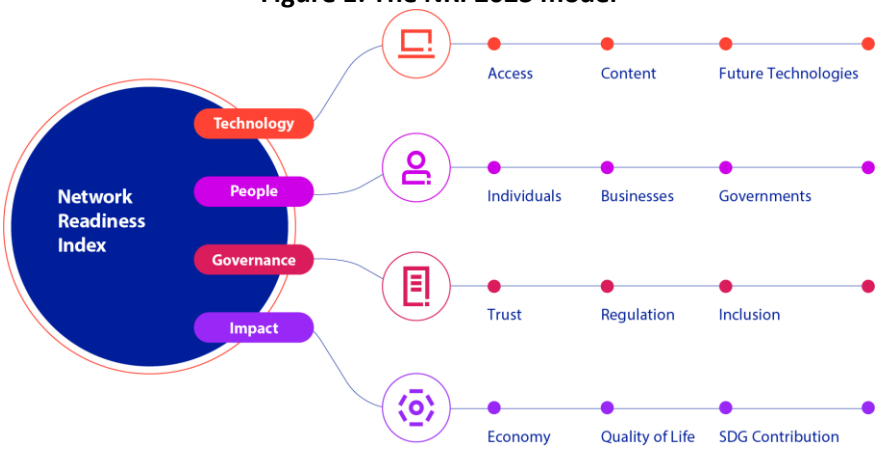
Israel

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

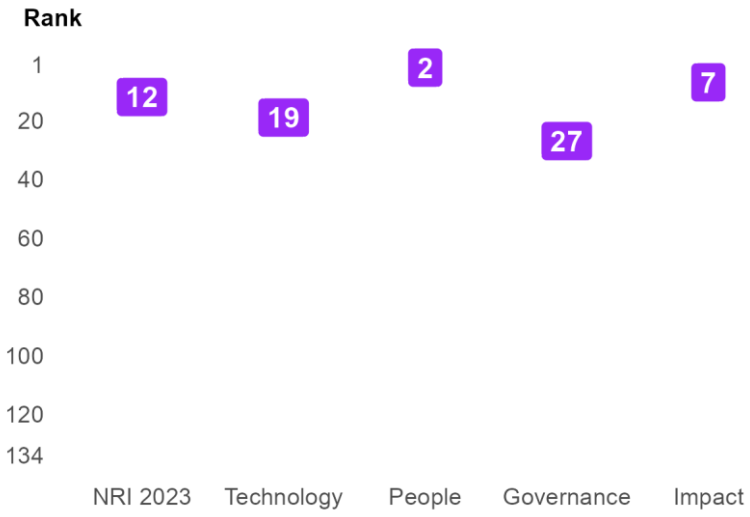
Figure 1: The NRI 2023 model



Global NRI position of Israel

Israel ranks 12th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Israel global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Israel relate to Governments, Economy and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Trust and Access sub-pillars.

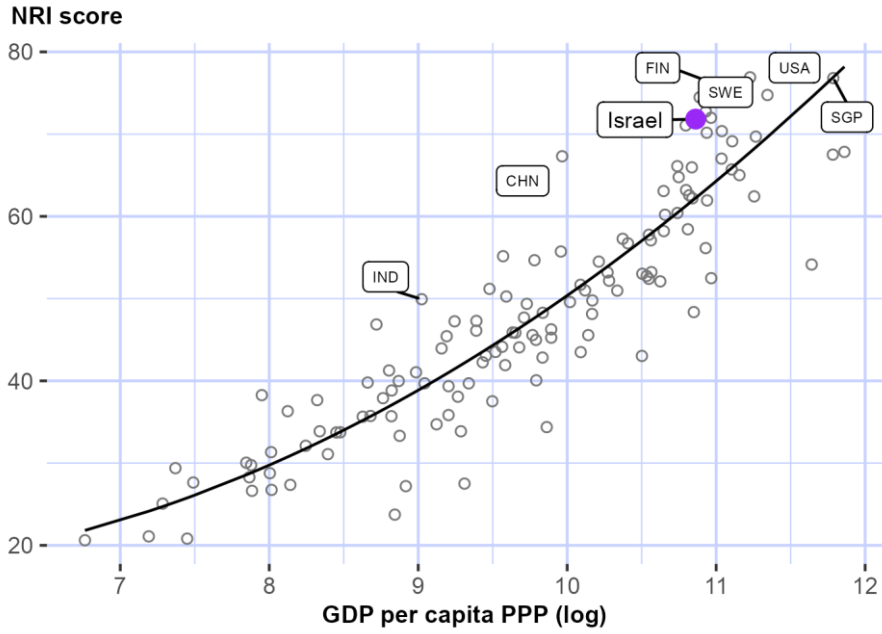
Table 1: Israel rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	2	Regulation	20
Economy	2	Inclusion	26
Individuals	4	Quality of Life	26
Businesses	11	SDG Contribution	28
Content	18	Trust	29
Future Technologies	18	Access	39

NRI score and income

Figure 3 shows the position of Israel in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Israel is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Israel belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Israel is ranked 12th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in ten of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Israel is ranked 8th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Israel against its income group and region, overall and by pillar

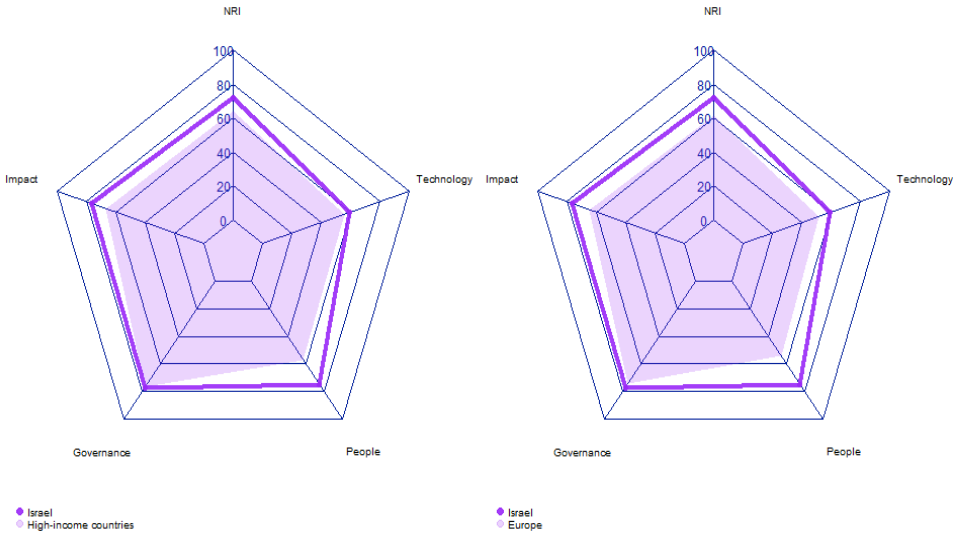


Table 2: Israel scores vs. averages of its income group and region, overall and by pillar

Dimension	Israel	High-income countries	Europe
NRI	71.82	64.07	61.25
Technology	59.03	55.76	51.90
People	74.78	56.99	54.16
Governance	77.37	76.81	74.33
Impact	76.12	66.73	64.61

Strongest and weakest indicators

The indicators where Israel performs particularly well include 2.1.6 AI talent concentration, 2.2.5 GERD performed by business enterprise, and 2.3.4 R&D expenditure by governments and higher education (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.5 International Internet bandwidth, 1.1.3 FTTH/building Internet subscriptions, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Israel

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 AI talent concentration	1	1.1.3 FTTH/building Internet subscriptions	83
2.2.5 GERD performed by business enterprise	1	4.2.2 Freedom to make life choices	83
2.3.4 R&D expenditure by governments and higher education	1	1.1.5 International Internet bandwidth	89
3.2.4 E-commerce legislation	1	3.2.2 ICT regulatory environment	92
4.1.6 ICT services exports	1		
1.2.3 Mobile apps development	2		
1.3.2 Investment in emerging technologies	2		
4.2.1 Happiness	2		
1.3.1 Adoption of emerging technologies	4		
3.2.3 Regulation of emerging technologies	4		
3.3.3 Availability of local online content	5		
4.2.4 Healthy life expectancy at birth	6		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Israel

Network Readiness Index Rank: 12 (out of 134) Score: 71.82

Pillar/sub-pillar	Rank	Score
A. Technology pillar	19	59.03
1st sub-pillar: Access	39	72.14
2nd sub-pillar: Content	18	48.80
3rd sub-pillar: Future Technologies	18	56.15
B. People pillar	2	74.78
1st sub-pillar: Individuals	4	70.83
2nd sub-pillar: Businesses	11	74.40
3rd sub-pillar: Governments	2	79.11

Pillar/sub-pillar	Rank	Score
C. Governance pillar	27	77.37
1st sub-pillar: Trust	29	70.68
2nd sub-pillar: Regulation	20	83.76
3rd sub-pillar: Inclusion	26	77.67
D. Impact pillar	7	76.12
1st sub-pillar: Economy	2	69.36
2nd sub-pillar: Quality of Life	26	80.24
3rd sub-pillar: SDG Contribution	28	78.75

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	19	59.03	
1st sub-pillar: Access	39	72.14	
1.1.1 Mobile tariffs	16	86.26	
1.1.2 Handset prices	29	70.84	
1.1.3 FTTH/building Internet subscriptions	83	23.26	○
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	89	67.80	○
1.1.6 Internet access in schools	39	85.00	
2nd sub-pillar: Content	18	48.80	
1.2.1 GitHub commits	8	76.70	
1.2.2 Internet domain registrations	35	18.76	
1.2.3 Mobile apps development	2	86.90	●
1.2.4 AI scientific publications	40	12.83	
3rd sub-pillar: Future Technologies	18	56.15	
1.3.1 Adoption of emerging technologies	4	96.84	●
1.3.2 Investment in emerging technologies	2	96.25	●

Indicator	Rank	Score	
C. Governance pillar	27	77.37	
1st sub-pillar: Trust	29	70.68	
3.1.1 Secure Internet servers	41	75.18	
3.1.2 Cybersecurity	44	90.77	
3.1.3 Online access to financial account	25	58.49	
3.1.4 Internet shopping	37	58.28	
2nd sub-pillar: Regulation	20	83.76	
3.2.1 Regulatory quality	26	76.91	
3.2.2 ICT regulatory environment	92	70.00	○
3.2.3 Regulation of emerging technologies	4	91.69	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	32	80.21	
3rd sub-pillar: Inclusion	26	77.67	
3.3.1 E-Participation	37	70.93	
3.3.2 Socioeconomic gap in use of digital payments	37	89.70	
3.3.3 Availability of local online content	5	95.91	●

Indicator	Rank	Score	
1.3.3 Robot density	26	11.30	
1.3.4 Computer software spending	68	20.20	
B. People pillar	2	74.78	
1st sub-pillar: Individuals	4	70.83	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	40	73.12	
2.1.4 Tertiary enrollment	51	39.38	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	11	74.40	
2.2.1 Firms with website	48	60.94	
2.2.2 GERD financed by business enterprise	42	49.52	
2.2.3 Knowledge intensive employment	7	80.05	
2.2.4 Annual investment in telecommunication services	45	81.48	
2.2.5 GERD performed by business enterprise	1	100.00	●
3rd sub-pillar: Governments	2	79.11	
2.3.1 Government online services	21	86.13	
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	6	83.27	
2.3.4 R&D expenditure by governments and higher education	1	100.00	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	48	69.19	
3.3.5 Rural gap in use of digital payments	68	62.61	
D. Impact pillar	7	76.12	
1st sub-pillar: Economy	2	69.36	
4.1.1 High-tech and medium-high-tech manufacturing	29	47.13	
4.1.2 High-tech exports	11	53.44	
4.1.3 PCT patent applications	6	71.17	
4.1.4 Domestic market size	48	60.13	
4.1.5 Prevalence of gig economy	8	84.30	
4.1.6 ICT services exports	1	100.00	●
2nd sub-pillar: Quality of Life	26	80.24	
4.2.1 Happiness	2	98.76	●
4.2.2 Freedom to make life choices	83	66.64	○
4.2.3 Income inequality	71	61.31	
4.2.4 Healthy life expectancy at birth	6	94.25	●
3rd sub-pillar: SDG Contribution	28	78.75	
4.3.1 SDG 3: Good Health and Well-Being	19	91.69	
4.3.2 SDG 4: Quality Education	38	53.53	
4.3.3 SDG 5: Women's economic opportunity	80	72.57	
4.3.4 SDG 7: Affordable and Clean Energy	22	80.78	
4.3.5 SDG 11: Sustainable Cities and Communities	10	95.18	

NOTE: ● a strength and ○ a weakness.

Sources

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Italy

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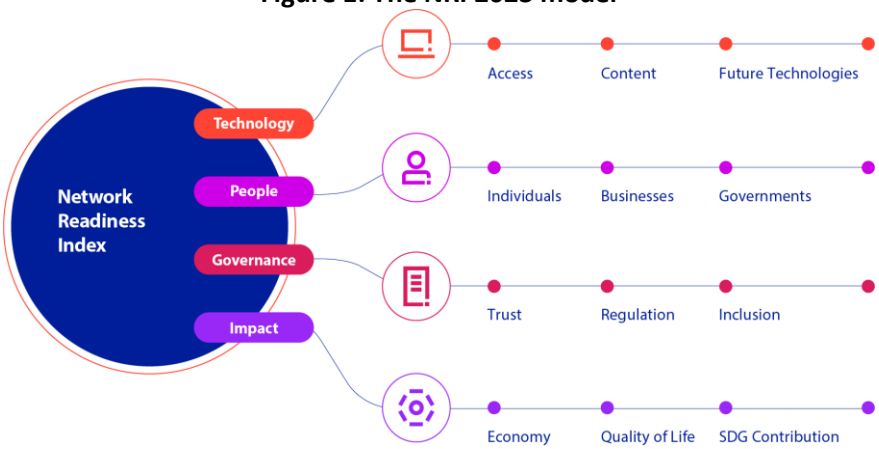
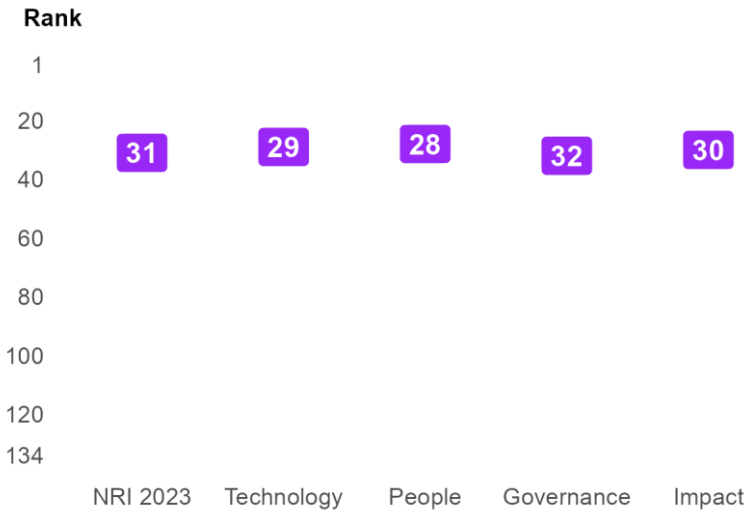
Figure 1: The NRI 2023 model



Global NRI position of Italy

Italy ranks 31st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Italy global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Italy relate to SDG Contribution, Future Technologies and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Access and Quality of Life sub-pillars.

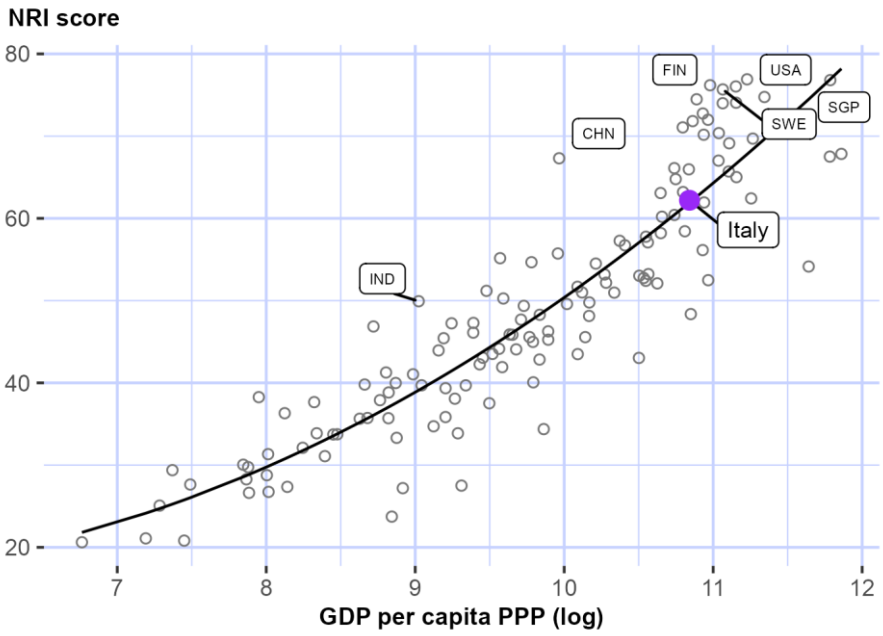
Table 1: Italy rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	21	Regulation	30
Future Technologies	23	Individuals	32
Businesses	28	Content	35
Inclusion	28	Trust	40
Economy	28	Access	42
Governments	29	Quality of Life	53

NRI score and income

Figure 3 shows the position of Italy in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Italy is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Italy belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Italy is ranked 30th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Future Technologies, Individuals, Businesses, Inclusion and SDG Contribution.

Europe

Italy is ranked 21st within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Impact. With regard to sub-pillars, it outperforms the average in Europe in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of Italy against its income group and region, overall and by pillar

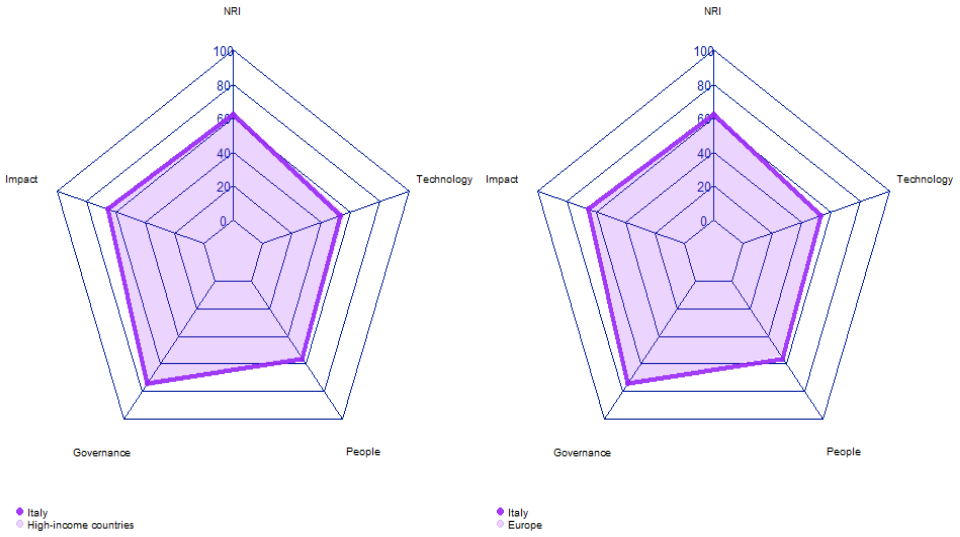


Table 2: Italy scores vs. averages of its income group and region, overall and by pillar

Dimension	Italy	High-income countries	Europe
NRI	62.20	64.07	61.25
Technology	53.08	55.76	51.90
People	56.17	56.99	54.16
Governance	74.28	76.81	74.33
Impact	65.27	66.73	64.61

Strongest and weakest indicators

The indicators where Italy performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.2 ICT regulatory environment, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.1.3 Online access to financial account, and 3.3.4 Gender gap in Internet use.

Table 3: Highlight of Strengths and Opportunities for Italy

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	32
3.2.2 ICT regulatory environment	1	3.3.4 Gender gap in Internet use	66
3.2.4 E-commerce legislation	1	3.1.3 Online access to financial account	69
1.3.4 Computer software spending	3	4.2.2 Freedom to make life choices	106
3.3.5 Rural gap in use of digital payments	6		
2.2.4 Annual investment in telecommunication services	8		
4.2.4 Healthy life expectancy at birth	10		
4.1.4 Domestic market size	12		
1.2.4 AI scientific publications	13		
2.1.1 Mobile broadband internet traffic within the country	13		
4.3.4 SDG 7: Affordable and Clean Energy	16		
1.1.1 Mobile tariffs	19		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Italy

Network Readiness Index Rank: 31 (out of 134) Score: 62.20

Pillar/sub-pillar	Rank	Score
A. Technology pillar	29	53.08
1st sub-pillar: Access	42	71.79
2nd sub-pillar: Content	35	36.96
3rd sub-pillar: Future Technologies	23	50.48
B. People pillar	28	56.17
1st sub-pillar: Individuals	32	54.44
2nd sub-pillar: Businesses	28	61.78
3rd sub-pillar: Governments	29	52.30

Pillar/sub-pillar	Rank	Score
C. Governance pillar	32	74.28
1st sub-pillar: Trust	40	66.56
2nd sub-pillar: Regulation	30	79.03
3rd sub-pillar: Inclusion	28	77.26
D. Impact pillar	30	65.27
1st sub-pillar: Economy	28	40.80
2nd sub-pillar: Quality of Life	53	72.78
3rd sub-pillar: SDG Contribution	21	82.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	29	53.08	
1st sub-pillar: Access	42	71.79	
1.1.1 Mobile tariffs	19	84.58	●
1.1.2 Handset prices	44	61.96	
1.1.3 FTTH/building Internet subscriptions	33	39.94	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	50	74.25	
1.1.6 Internet access in schools	47	70.00	
2nd sub-pillar: Content	35	36.96	
1.2.1 GitHub commits	45	19.16	
1.2.2 Internet domain registrations	28	26.51	
1.2.3 Mobile apps development	59	68.17	
1.2.4 AI scientific publications	13	34.01	●
3rd sub-pillar: Future Technologies	23	50.48	
1.3.1 Adoption of emerging technologies	32	65.18	
1.3.2 Investment in emerging technologies	62	41.00	

Indicator	Rank	Score	
C. Governance pillar	32	74.28	
1st sub-pillar: Trust	40	66.56	
3.1.1 Secure Internet servers	34	79.29	
3.1.2 Cybersecurity	27	96.06	
3.1.3 Online access to financial account	69	26.71	○
3.1.4 Internet shopping	29	64.19	
2nd sub-pillar: Regulation	30	79.03	
3.2.1 Regulatory quality	44	61.92	
3.2.2 ICT regulatory environment	1	100.00	●
3.2.3 Regulation of emerging technologies	38	62.34	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	54	70.88	
3rd sub-pillar: Inclusion	28	77.26	
3.3.1 E-Participation	32	72.10	
3.3.2 Socioeconomic gap in use of digital payments	29	92.67	
3.3.3 Availability of local online content	41	75.00	

Indicator	Rank	Score	
1.3.3 Robot density	13	29.88	
1.3.4 Computer software spending	3	65.85	●
B. People pillar	28	56.17	
1st sub-pillar: Individuals	32	54.44	
2.1.1 Mobile broadband internet traffic within the country	13	44.55	●
2.1.2 ICT skills in the education system	49	55.71	
2.1.3 Use of virtual social networks	44	70.19	
2.1.4 Tertiary enrollment	38	45.05	
2.1.5 Adult literacy rate	18	99.11	
2.1.6 AI talent concentration	32	12.02	○
2nd sub-pillar: Businesses	28	61.78	
2.2.1 Firms with website	27	75.40	
2.2.2 GERD financed by business enterprise	23	65.37	
2.2.3 Knowledge intensive employment	39	53.65	
2.2.4 Annual investment in telecommunication services	8	91.16	●
2.2.5 GERD performed by business enterprise	25	23.33	
3rd sub-pillar: Governments	29	52.30	
2.3.1 Government online services	23	85.18	
2.3.2 Publication and use of open data	20	61.76	
2.3.3 Government promotion of investment in emerging tech	69	35.69	
2.3.4 R&D expenditure by governments and higher education	27	26.56	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	66	66.76	○
3.3.5 Rural gap in use of digital payments	6	79.77	●
D. Impact pillar	30	65.27	
1st sub-pillar: Economy	28	40.80	
4.1.1 High-tech and medium-high-tech manufacturing	27	47.52	
4.1.2 High-tech exports	59	14.63	
4.1.3 PCT patent applications	26	32.13	
4.1.4 Domestic market size	12	77.71	●
4.1.5 Prevalence of gig economy	32	61.34	
4.1.6 ICT services exports	72	11.51	
2nd sub-pillar: Quality of Life	53	72.78	
4.2.1 Happiness	41	72.65	
4.2.2 Freedom to make life choices	106	55.92	○
4.2.3 Income inequality	53	69.85	
4.2.4 Healthy life expectancy at birth	10	92.72	●
3rd sub-pillar: SDG Contribution	21	82.22	
4.3.1 SDG 3: Good Health and Well-Being	21	90.22	
4.3.2 SDG 4: Quality Education	34	58.33	
4.3.3 SDG 5: Women's economic opportunity	15	96.46	
4.3.4 SDG 7: Affordable and Clean Energy	16	82.15	●
4.3.5 SDG 11: Sustainable Cities and Communities	30	83.93	

NOTE: ● a strength and ○ a weakness.

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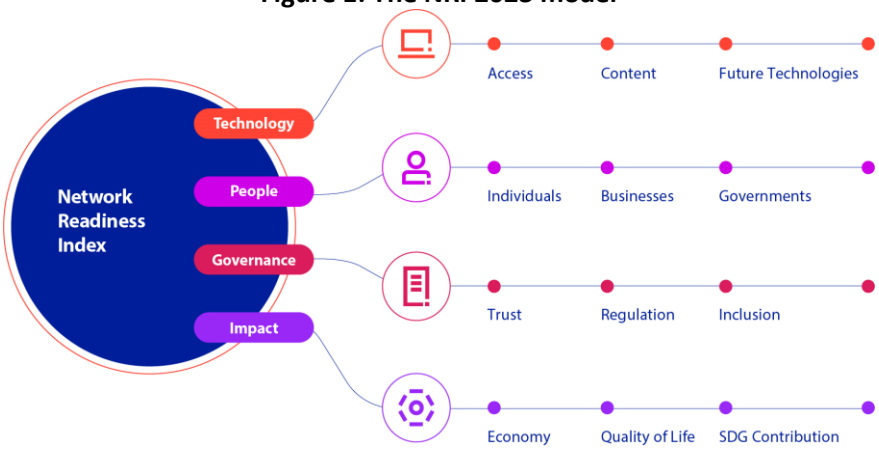
Jamaica

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

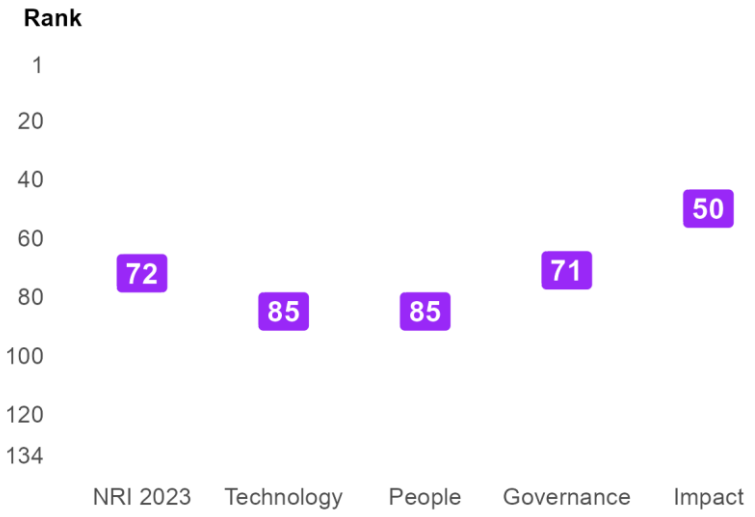
Figure 1: The NRI 2023 model



Global NRI position of Jamaica

Jamaica ranks 72nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Jamaica global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Jamaica relate to Regulation, Businesses and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Content and Individuals sub-pillars.

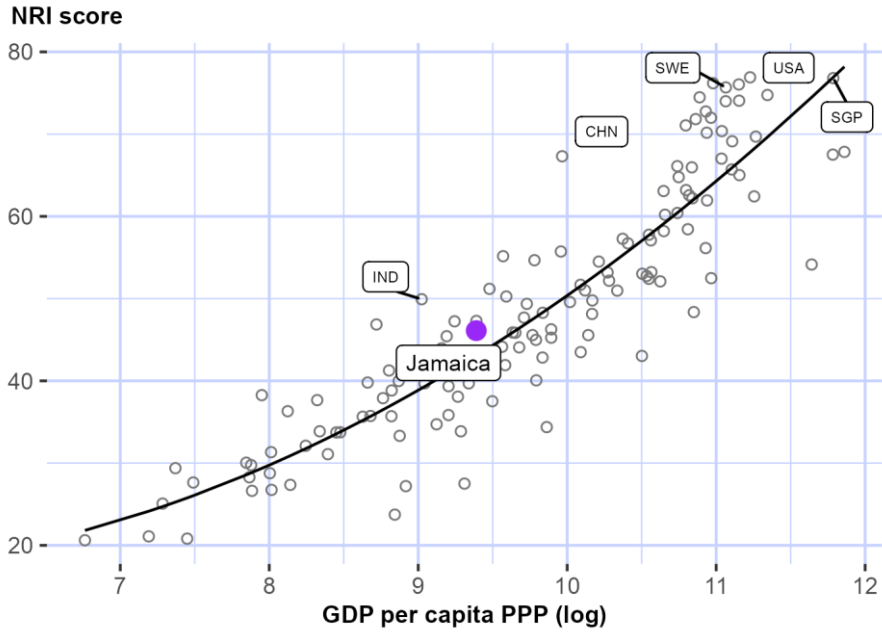
Table 1: Jamaica rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	27	Economy	77
Businesses	46	Inclusion	87
Quality of Life	46	Access	90
Future Technologies	51	Trust	99
SDG Contribution	51	Content	106
Governments	69	Individuals	117

NRI score and income

Figure 3 shows the position of Jamaica in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Jamaica is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Jamaica belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Jamaica is ranked 19th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Future Technologies, Businesses, Regulation, Quality of Life and SDG Contribution.

The Americas

Jamaica is ranked 10th within The Americas (Figure 4, right panel). It has a score above the regional average in two of the four pillars: Governance and Impact. With regard to sub-pillars, it outperforms the average in The Americas in five of the twelve sub-pillars: Future Technologies, Businesses, Governments, Regulation and Quality of Life.

Figure 4: Performance of Jamaica against its income group and region, overall and by pillar

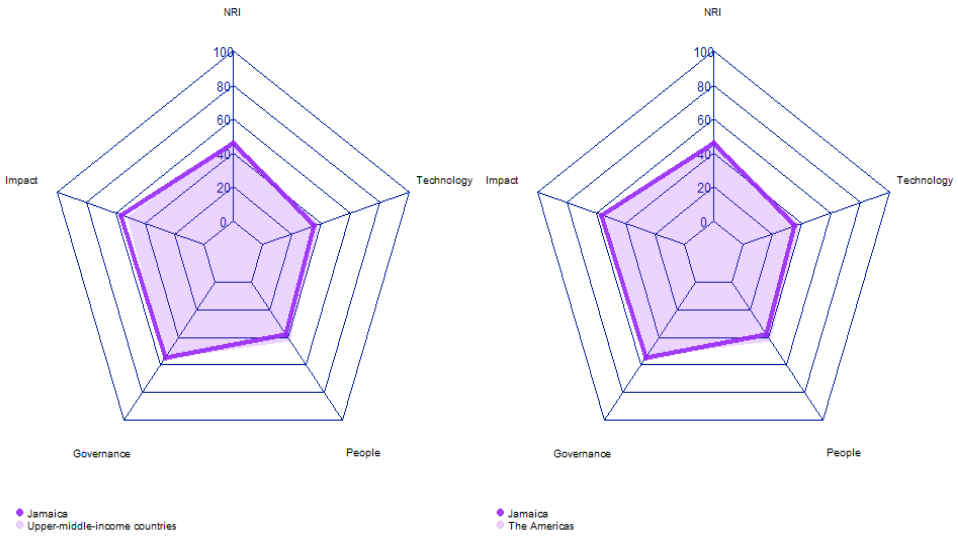


Table 2: Jamaica scores vs. averages of its income group and region, overall and by pillar

Dimension	Jamaica	Upper-middle-income countries	The Americas
NRI	46.11	47.35	47.41
Technology	35.38	38.48	38.24
People	38.28	42.59	42.35
Governance	54.49	55.90	54.12
Impact	56.28	52.43	54.93

Strongest and weakest indicators

The indicators where Jamaica performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 1.1.1 Mobile tariffs, 1.2.4 AI scientific publications, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Highlight of Strengths and Opportunities for Jamaica

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.2.3 Mobile apps development	103
3.3.4 Gender gap in Internet use	4	1.2.4 AI scientific publications	110
3.2.5 Privacy protection by law content	6	2.1.1 Mobile broadband internet traffic within the country	110
4.1.6 ICT services exports	20	1.1.1 Mobile tariffs	119
1.3.4 Computer software spending	29	4.1.4 Domestic market size	122
4.2.2 Freedom to make life choices	38		
4.3.5 SDG 11: Sustainable Cities and Communities	41		
2.3.2 Publication and use of open data	47		
4.1.5 Prevalence of gig economy	56		
3.2.1 Regulatory quality	58		
4.2.4 Healthy life expectancy at birth	58		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Jamaica

Network Readiness Index Rank: 72 (out of 134) Score: 46.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	85	35.38
1st sub-pillar: Access	90	54.89
2nd sub-pillar: Content	106	13.63
3rd sub-pillar: Future Technologies	51	37.61
B. People pillar	85	38.28
1st sub-pillar: Individuals	117	24.94
2nd sub-pillar: Businesses	46	52.36
3rd sub-pillar: Governments	69	37.53

Pillar/sub-pillar	Rank	Score
C. Governance pillar	71	54.49
1st sub-pillar: Trust	99	30.05
2nd sub-pillar: Regulation	27	79.98
3rd sub-pillar: Inclusion	87	53.45
D. Impact pillar	50	56.28
1st sub-pillar: Economy	77	24.39
2nd sub-pillar: Quality of Life	46	74.44
3rd sub-pillar: SDG Contribution	51	70.02

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	85	35.38	
1st sub-pillar: Access	90	54.89	
1.1.1 Mobile tariffs	119	24.33	○
1.1.2 Handset prices	95	35.15	
1.1.3 FTTH/building Internet subscriptions	77	24.91	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	95	66.45	
1.1.6 Internet access in schools	43	78.83	
2nd sub-pillar: Content	106	13.63	
1.2.1 GitHub commits	86	3.33	
1.2.2 Internet domain registrations	90	1.45	
1.2.3 Mobile apps development	103	49.11	○
1.2.4 AI scientific publications	110	0.64	○
3rd sub-pillar: Future Technologies	51	37.61	
1.3.1 Adoption of emerging technologies	76	43.00	
1.3.2 Investment in emerging technologies	72	38.00	

Indicator	Rank	Score	
C. Governance pillar	71	54.49	
1st sub-pillar: Trust	99	30.05	
3.1.1 Secure Internet servers	95	40.89	
3.1.2 Cybersecurity	106	31.34	
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	74	17.93	
2nd sub-pillar: Regulation	27	79.98	
3.2.1 Regulatory quality	58	54.02	●
3.2.2 ICT regulatory environment	87	73.53	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	6	92.35	●
3rd sub-pillar: Inclusion	87	53.45	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	92	56.09	
3.3.3 Availability of local online content	65	60.34	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	29	31.83	●
B. People pillar	85	38.28	
1st sub-pillar: Individuals	117	24.94	
2.1.1 Mobile broadband internet traffic within the country	110	1.22	○
2.1.2 ICT skills in the education system	83	36.31	
2.1.3 Use of virtual social networks	89	45.75	
2.1.4 Tertiary enrollment	89	16.47	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	46	52.36	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	68	30.78	
2.2.4 Annual investment in telecommunication services	94	73.94	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	69	37.53	
2.3.1 Government online services	99	43.79	
2.3.2 Publication and use of open data	47	35.29	●
2.3.3 Government promotion of investment in emerging tech	78	33.50	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	4	83.18	●
3.3.5 Rural gap in use of digital payments	101	40.88	
D. Impact pillar	50	56.28	
1st sub-pillar: Economy	77	24.39	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	91	4.02	
4.1.3 PCT patent applications	70	2.47	
4.1.4 Domestic market size	122	32.66	○
4.1.5 Prevalence of gig economy	56	44.77	●
4.1.6 ICT services exports	20	38.01	●
2nd sub-pillar: Quality of Life	46	74.44	
4.2.1 Happiness	66	65.43	
4.2.2 Freedom to make life choices	38	83.17	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	58	74.73	●
3rd sub-pillar: SDG Contribution	51	70.02	
4.3.1 SDG 3: Good Health and Well-Being	67	68.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	103	63.72	
4.3.4 SDG 7: Affordable and Clean Energy	72	70.16	
4.3.5 SDG 11: Sustainable Cities and Communities	41	77.67	●

NOTE: ● a strength and ○ a weakness.

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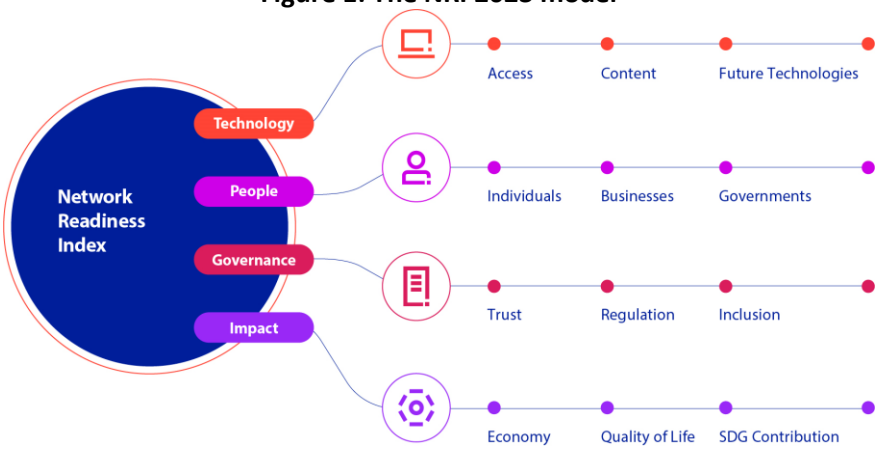
Japan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

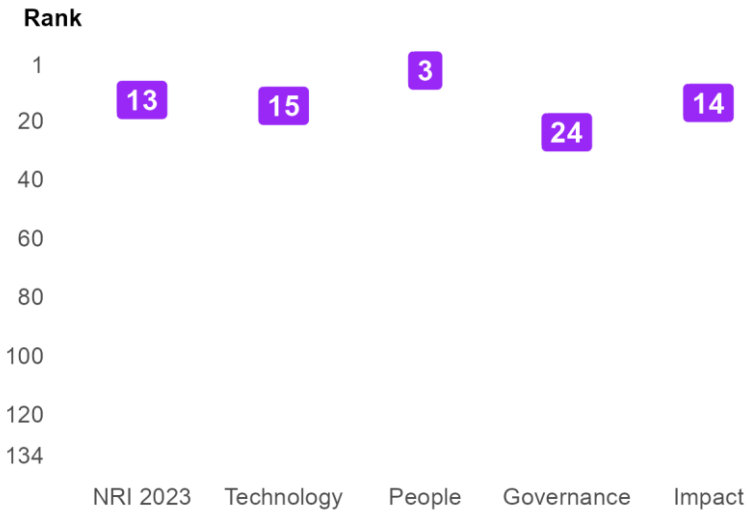
Figure 1: The NRI 2023 model



Global NRI position of Japan

Japan ranks 13th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Japan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Japan relate to Governments, Access and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Content and Trust sub-pillars.

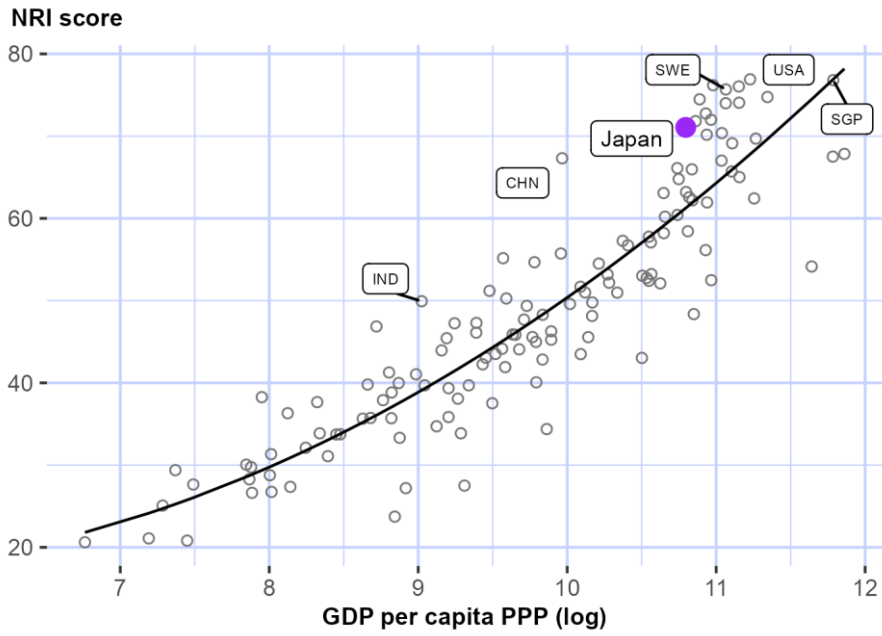
Table 1: Japan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	4	Businesses	14
Access	5	Regulation	23
Individuals	5	SDG Contribution	25
Inclusion	8	Quality of Life	31
Future Technologies	12	Content	33
Economy	12	Trust	35

NRI score and income

Figure 3 shows the position of Japan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Japan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Japan belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Japan is ranked 13th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy and SDG Contribution.

Asia & Pacific

Japan is ranked 3rd within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Japan against its income group and region, overall and by pillar

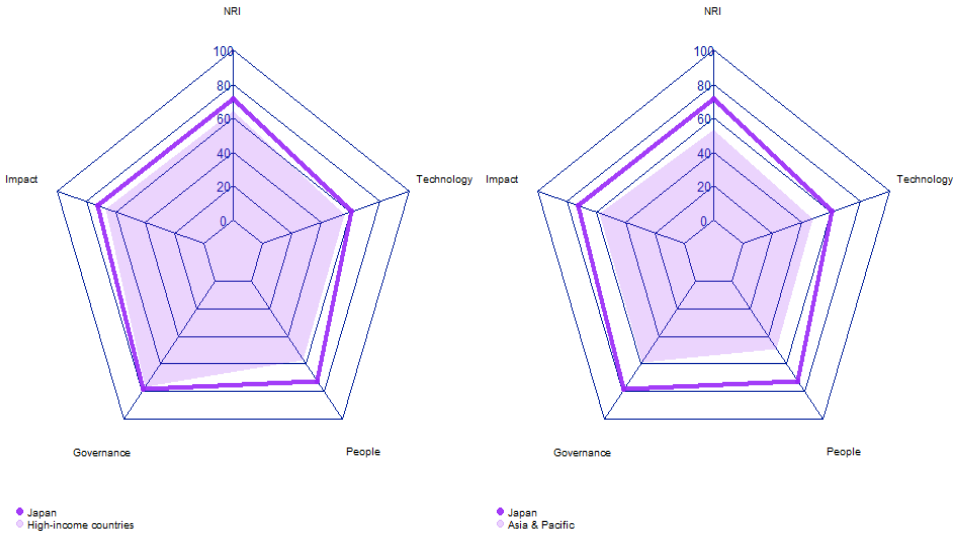


Table 2: Japan scores vs. averages of its income group and region, overall and by pillar

Dimension	Japan	High-income countries	Asia & Pacific
NRI	71.06	64.07	53.28
Technology	60.62	55.76	47.34
People	72.59	56.99	48.95
Governance	78.73	76.81	59.22
Impact	72.30	66.73	57.62

Strongest and weakest indicators

The indicators where Japan performs particularly well include 2.1.6 AI talent concentration, 3.2.4 E-commerce legislation, and 3.3.1 E-Participation (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.3.3 SDG 5: Women's economic opportunity, and 3.3.4 Gender gap in Internet use.

Table 3: Highlight of Strengths and Opportunities for Japan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.6 AI talent concentration	1	4.1.6 ICT services exports	82
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	86
3.3.1 E-Participation	1	4.3.3 SDG 5: Women's economic opportunity	88
4.1.3 PCT patent applications	1	3.2.2 ICT regulatory environment	92
4.2.4 Healthy life expectancy at birth	1		
2.2.2 GERD financed by business enterprise	2		
3.3.3 Availability of local online content	2		
2.2.4 Annual investment in telecommunication services	4		
2.2.5 GERD performed by business enterprise	4		
4.1.4 Domestic market size	4		
2.3.4 R&D expenditure by governments and higher education	5		
1.2.4 AI scientific publications	6		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Japan

Network Readiness Index Rank: 13 (out of 134) Score: 71.06

Pillar/sub-pillar	Rank	Score
A. Technology pillar	15	60.62
1st sub-pillar: Access	5	81.46
2nd sub-pillar: Content	33	38.34
3rd sub-pillar: Future Technologies	12	62.07
B. People pillar	3	72.59
1st sub-pillar: Individuals	5	69.15
2nd sub-pillar: Businesses	14	71.36
3rd sub-pillar: Governments	4	77.28

Pillar/sub-pillar	Rank	Score
C. Governance pillar	24	78.73
1st sub-pillar: Trust	35	69.26
2nd sub-pillar: Regulation	23	82.02
3rd sub-pillar: Inclusion	8	84.92
D. Impact pillar	14	72.30
1st sub-pillar: Economy	12	57.55
2nd sub-pillar: Quality of Life	31	78.93
3rd sub-pillar: SDG Contribution	25	80.41

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	15	60.62	
1st sub-pillar: Access	5	81.46	
1.1.1 Mobile tariffs	23	82.44	
1.1.2 Handset prices	13	80.46	
1.1.3 FTTH/building Internet subscriptions	8	65.96	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	29	78.49	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	33	38.34	
1.2.1 GitHub commits	40	24.59	
1.2.2 Internet domain registrations	41	12.18	
1.2.3 Mobile apps development	40	72.48	
1.2.4 AI scientific publications	6	44.11	•
3rd sub-pillar: Future Technologies	12	62.07	
1.3.1 Adoption of emerging technologies	10	85.26	
1.3.2 Investment in emerging technologies	9	80.00	

Indicator	Rank	Score	
C. Governance pillar	24	78.73	
1st sub-pillar: Trust	35	69.26	
3.1.1 Secure Internet servers	29	80.09	
3.1.2 Cybersecurity	12	97.78	
3.1.3 Online access to financial account	48	38.84	
3.1.4 Internet shopping	32	60.33	
2nd sub-pillar: Regulation	23	82.02	
3.2.1 Regulatory quality	19	80.68	
3.2.2 ICT regulatory environment	92	70.00	○
3.2.3 Regulation of emerging technologies	26	72.99	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	17	86.44	
3rd sub-pillar: Inclusion	8	84.92	
3.3.1 E-Participation	1	100.00	•
3.3.2 Socioeconomic gap in use of digital payments	21	96.17	
3.3.3 Availability of local online content	2	97.60	•

Indicator	Rank	Score	
1.3.3 Robot density	4	54.29	
1.3.4 Computer software spending	42	28.74	
B. People pillar	3	72.59	
1st sub-pillar: Individuals	5	69.15	
2.1.1 Mobile broadband internet traffic within the country	7	58.24	
2.1.2 ICT skills in the education system	19	75.17	
2.1.3 Use of virtual social networks	45	70.09	
2.1.4 Tertiary enrollment	47	42.23	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	14	71.36	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	2	96.58	●
2.2.3 Knowledge intensive employment	70	29.47	
2.2.4 Annual investment in telecommunication services	4	93.02	●
2.2.5 GERD performed by business enterprise	4	66.37	●
3rd sub-pillar: Governments	4	77.28	
2.3.1 Government online services	10	89.99	
2.3.2 Publication and use of open data	7	88.24	
2.3.3 Government promotion of investment in emerging tech	16	71.65	
2.3.4 R&D expenditure by governments and higher education	5	59.24	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	86	59.11	○
3.3.5 Rural gap in use of digital payments	41	71.73	
D. Impact pillar	14	72.30	
1st sub-pillar: Economy	12	57.55	
4.1.1 High-tech and medium-high-tech manufacturing	8	68.78	
4.1.2 High-tech exports	27	32.36	
4.1.3 PCT patent applications	1	100.00	●
4.1.4 Domestic market size	4	84.54	●
4.1.5 Prevalence of gig economy	50	50.29	
4.1.6 ICT services exports	82	9.30	○
2nd sub-pillar: Quality of Life	31	78.93	
4.2.1 Happiness	44	71.15	
4.2.2 Freedom to make life choices	78	68.95	
4.2.3 Income inequality	38	75.63	
4.2.4 Healthy life expectancy at birth	1	100.00	●
3rd sub-pillar: SDG Contribution	25	80.41	
4.3.1 SDG 3: Good Health and Well-Being	16	92.78	
4.3.2 SDG 4: Quality Education	5	75.89	
4.3.3 SDG 5: Women's economic opportunity	88	69.91	○
4.3.4 SDG 7: Affordable and Clean Energy	51	75.22	
4.3.5 SDG 11: Sustainable Cities and Communities	22	88.26	

NOTE: ● a strength and ○ a weakness.

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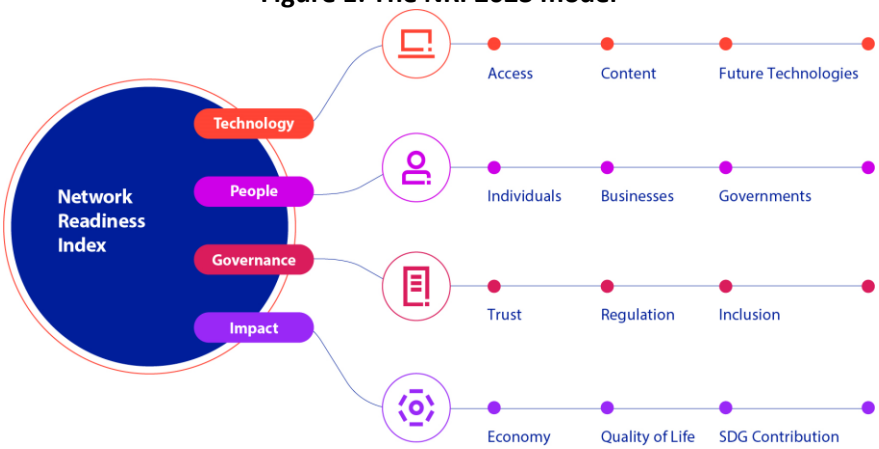
Jordan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

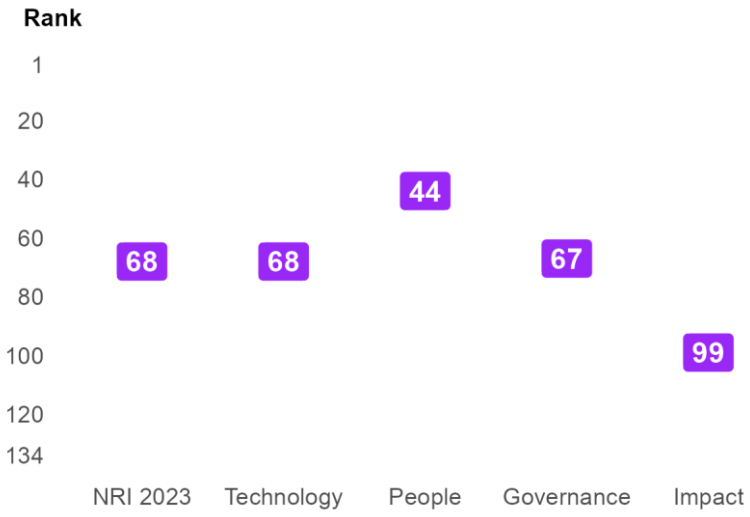
Figure 1: The NRI 2023 model



Global NRI position of Jordan

Jordan ranks 68th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Jordan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Jordan relate to Businesses, Future Technologies and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Quality of Life and SDG Contribution sub-pillars.

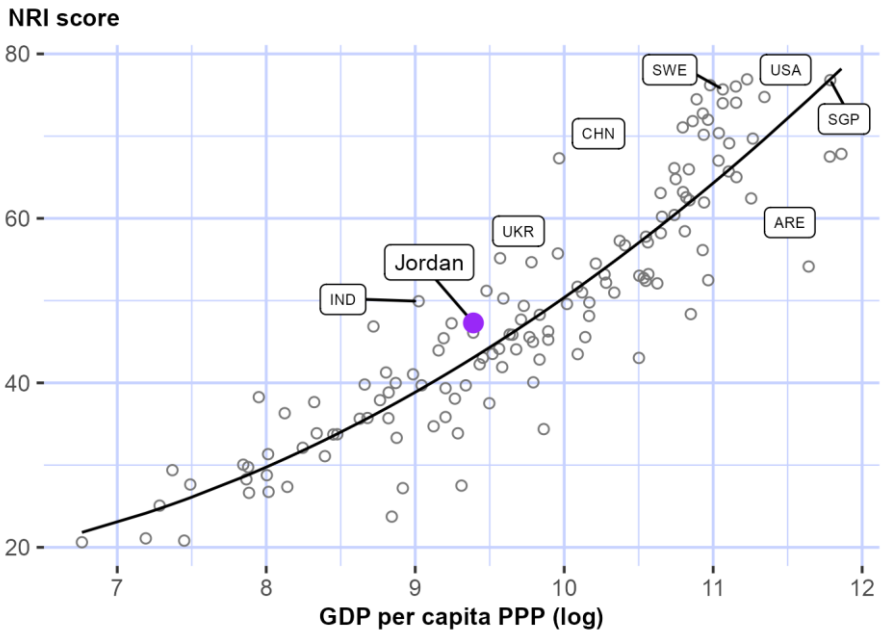
Table 1: Jordan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	27	Economy	84
Future Technologies	39	Governments	85
Individuals	44	Access	91
Inclusion	50	Trust	92
Content	65	Quality of Life	93
Regulation	71	SDG Contribution	105

NRI score and income

Figure 3 shows the position of Jordan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Jordan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Jordan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Jordan is ranked 4th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Arab States

Jordan is ranked 7th within Arab States (Figure 4, right panel). It has a score above the regional average in two of the four pillars: NRI, People and Governance. With regard to sub-pillars, it outperforms the average in Arab States in six of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Regulation and Inclusion.

Figure 4: Performance of Jordan against its income group and region, overall and by pillar

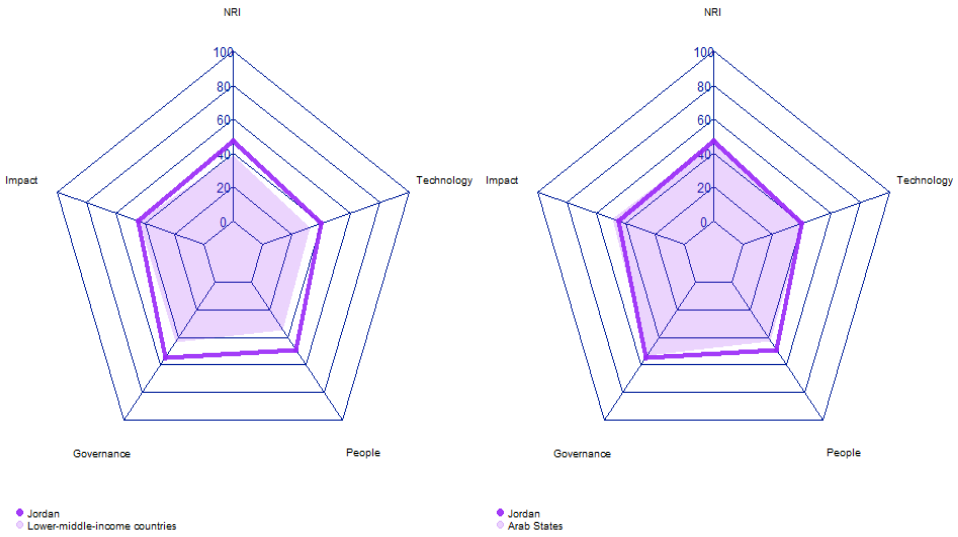


Table 2: Jordan scores vs. averages of its income group and region, overall and by pillar

Dimension	Jordan	Lower-middle-income countries	Arab States
NRI	47.29	38.41	46.59
Technology	40.05	32.12	41.17
People	49.19	34.38	42.66
Governance	55.16	43.27	53.45
Impact	44.75	43.89	49.08

Strongest and weakest indicators

The indicators where Jordan performs particularly well include 3.3.5 Rural gap in use of digital payments, 2.1.2 ICT skills in the education system, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 4.1.6 ICT services exports, and 3.1.3 Online access to financial account.

Table 3: Highlight of Strengths and Opportunities for Jordan

Strongest indicators	Rank	Weakest indicators	Rank
3.3.5 Rural gap in use of digital payments	1	2.3.2 Publication and use of open data	86
2.1.2 ICT skills in the education system	14	3.2.4 E-commerce legislation	87
2.2.1 Firms with website	24	3.1.3 Online access to financial account	112
1.2.3 Mobile apps development	26	4.1.6 ICT services exports	127
2.1.5 Adult literacy rate	27	4.3.3 SDG 5: Women's economic opportunity	129
4.1.5 Prevalence of gig economy	39		
1.1.4 Population covered by at least a 3G mobile network	40		
1.3.4 Computer software spending	41		
3.3.3 Availability of local online content	42		
4.3.5 SDG 11: Sustainable Cities and Communities	43		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Jordan

Network Readiness Index Rank: 68 (out of 134) Score: 47.29

Pillar/sub-pillar	Rank	Score
A. Technology pillar	68	40.05
1st sub-pillar: Access	91	54.39
2nd sub-pillar: Content	65	23.19
3rd sub-pillar: Future Technologies	39	42.56
B. People pillar	44	49.19
1st sub-pillar: Individuals	44	52.10
2nd sub-pillar: Businesses	27	62.28
3rd sub-pillar: Governments	85	33.19
C. Governance pillar	67	55.16
1st sub-pillar: Trust	92	33.54
2nd sub-pillar: Regulation	71	63.44
3rd sub-pillar: Inclusion	50	68.49
D. Impact pillar	99	44.75
1st sub-pillar: Economy	84	22.66
2nd sub-pillar: Quality of Life	93	59.85
3rd sub-pillar: SDG Contribution	105	51.73

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	68	40.05	
1st sub-pillar: Access	91	54.39	
1.1.1 Mobile tariffs	101	41.04	
1.1.2 Handset prices	63	47.38	
1.1.3 FTTH/building Internet subscriptions	58	30.36	
1.1.4 Population covered by at least a 3G mobile network	40	99.93	•
1.1.5 International Internet bandwidth	51	74.07	
1.1.6 Internet access in schools	60	33.56	
2nd sub-pillar: Content	65	23.19	
1.2.1 GitHub commits	75	4.33	
1.2.2 Internet domain registrations	78	2.31	
1.2.3 Mobile apps development	26	75.38	•
1.2.4 AI scientific publications	44	10.75	
3rd sub-pillar: Future Technologies	39	42.56	
1.3.1 Adoption of emerging technologies	59	49.03	
1.3.2 Investment in emerging technologies	44	49.25	

Indicator	Rank	Score	
C. Governance pillar	67	55.16	
1st sub-pillar: Trust	92	33.54	
3.1.1 Secure Internet servers	98	38.62	
3.1.2 Cybersecurity	78	70.45	
3.1.3 Online access to financial account	112	9.24	○
3.1.4 Internet shopping	78	15.85	
2nd sub-pillar: Regulation	71	63.44	
3.2.1 Regulatory quality	62	53.00	
3.2.2 ICT regulatory environment	64	84.12	
3.2.3 Regulation of emerging technologies	45	56.36	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	84	57.07	
3rd sub-pillar: Inclusion	50	68.49	
3.3.1 E-Participation	67	53.49	
3.3.2 Socioeconomic gap in use of digital payments	97	54.42	
3.3.3 Availability of local online content	42	74.52	•

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	41	29.40	●
B. People pillar	44	49.19	
1st sub-pillar: Individuals	44	52.10	
2.1.1 Mobile broadband internet traffic within the country	75	7.25	
2.1.2 ICT skills in the education system	14	79.79	●
2.1.3 Use of virtual social networks	80	54.45	
2.1.4 Tertiary enrollment	84	21.18	
2.1.5 Adult literacy rate	27	97.84	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	27	62.28	
2.2.1 Firms with website	24	78.10	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	61	32.93	
2.2.4 Annual investment in telecommunication services	80	75.83	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	85	33.19	
2.3.1 Government online services	73	62.36	
2.3.2 Publication and use of open data	86	11.76	○
2.3.3 Government promotion of investment in emerging tech	48	46.28	
2.3.4 R&D expenditure by governments and higher education	50	12.36	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	84	60.03	
3.3.5 Rural gap in use of digital payments	1	100.00	●
D. Impact pillar	99	44.75	
1st sub-pillar: Economy	84	22.66	
4.1.1 High-tech and medium-high-tech manufacturing	66	20.69	
4.1.2 High-tech exports	104	2.55	
4.1.3 PCT patent applications	45	8.06	
4.1.4 Domestic market size	84	46.39	
4.1.5 Prevalence of gig economy	39	57.27	●
4.1.6 ICT services exports	127	1.02	○
2nd sub-pillar: Quality of Life	93	59.85	
4.2.1 Happiness	106	37.26	
4.2.2 Freedom to make life choices	88	64.05	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	45	78.25	
3rd sub-pillar: SDG Contribution	105	51.73	
4.3.1 SDG 3: Good Health and Well-Being	98	51.25	
4.3.2 SDG 4: Quality Education	55	33.44	
4.3.3 SDG 5: Women's economic opportunity	129	24.78	○
4.3.4 SDG 7: Affordable and Clean Energy	68	71.89	
4.3.5 SDG 11: Sustainable Cities and Communities	43	77.30	●

NOTE: ● a strength and ○ a weakness.

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Kazakhstan

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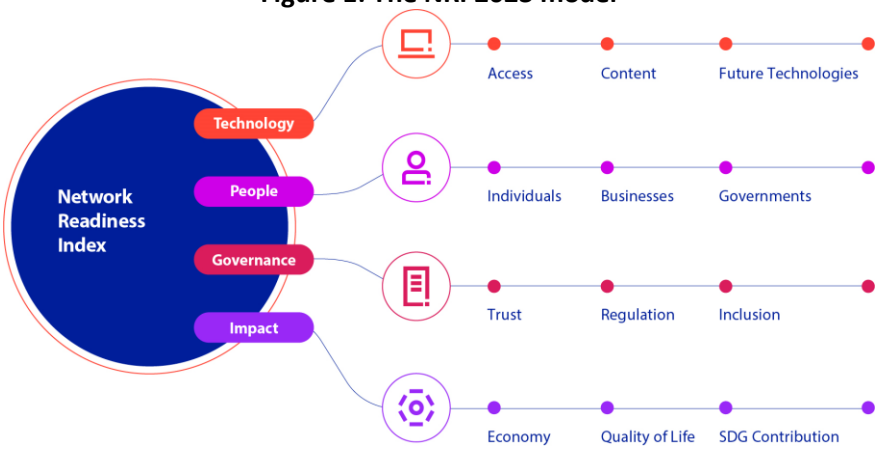
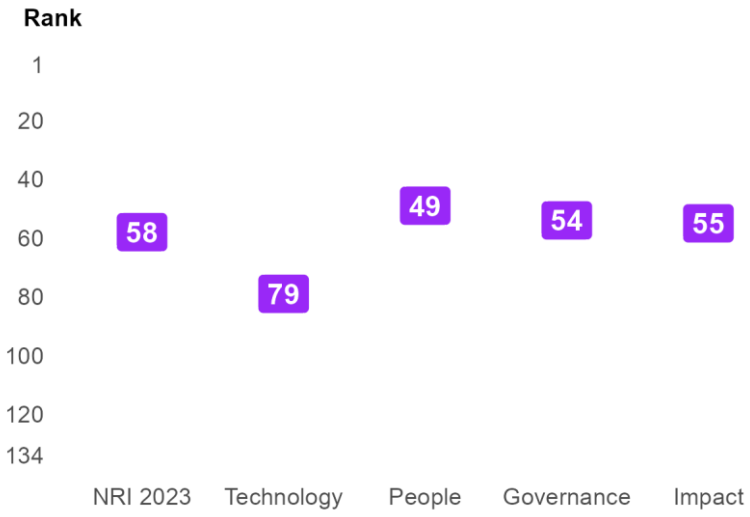
Figure 1: The NRI 2023 model



Global NRI position of Kazakhstan

Kazakhstan ranks 58th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Kazakhstan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kazakhstan relate to Inclusion, Quality of Life and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Future Technologies and Regulation sub-pillars.

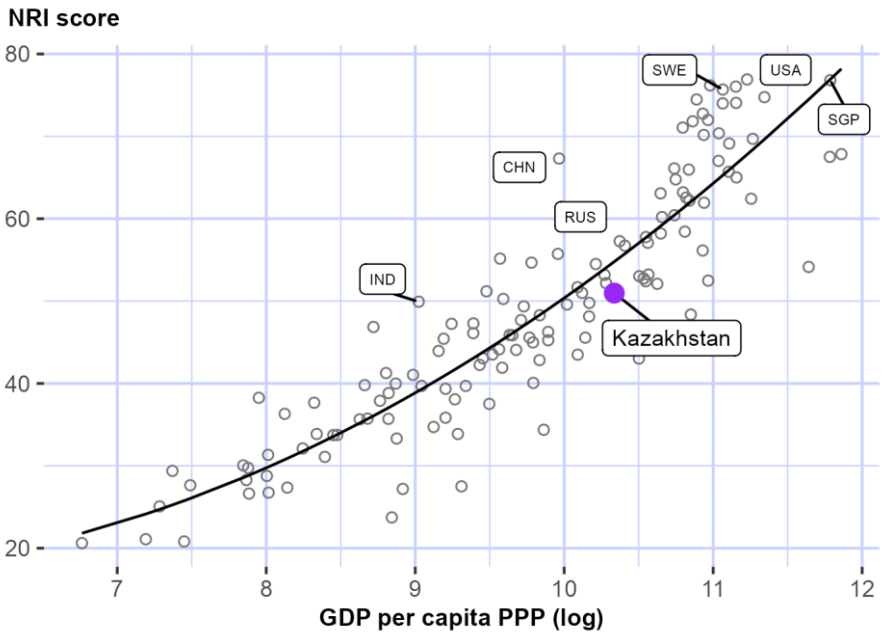
Table 1: Kazakhstan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	35	Businesses	56
Quality of Life	35	Economy	63
Governments	48	Content	82
Trust	48	SDG Contribution	88
Access	52	Future Technologies	98
Individuals	54	Regulation	104

NRI score and income

Figure 3 shows the position of Kazakhstan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kazakhstan is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Kazakhstan belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Kazakhstan is ranked 10th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

CIS

Kazakhstan is ranked 2nd within CIS (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in CIS in nine of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Kazakhstan against its income group and region, overall and by pillar

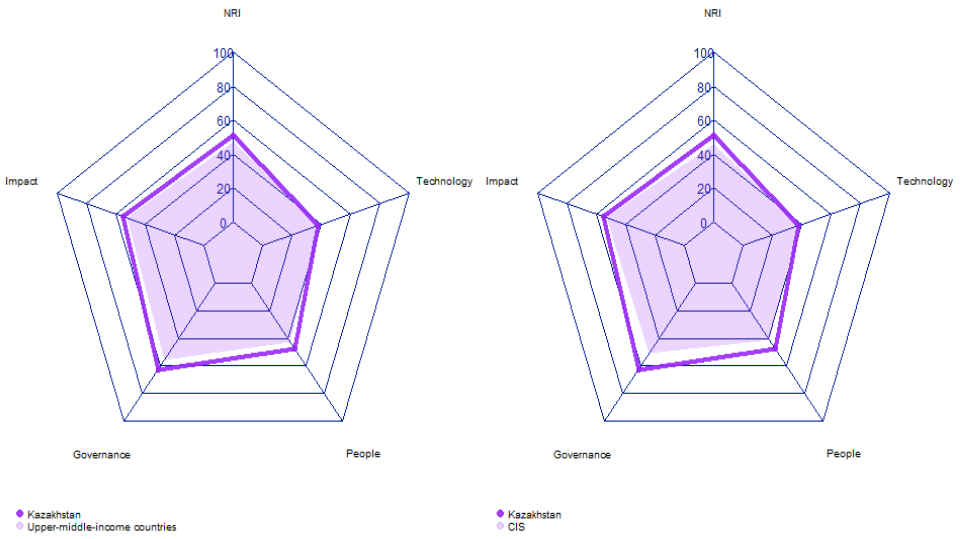


Table 2: Kazakhstan scores vs. averages of its income group and region, overall and by pillar

Dimension	Kazakhstan	Upper-middle-income countries	CIS
NRI	50.97	47.35	45.81
Technology	37.92	38.48	38.11
People	47.86	42.59	41.35
Governance	62.72	55.90	51.08
Impact	55.38	52.43	52.69

Strongest and weakest indicators

The indicators where Kazakhstan performs particularly well include 3.2.4 E-commerce legislation, 2.1.5 Adult literacy rate, and 2.3.1 Government online services (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.3.4 Computer software spending, and 3.2.5 Privacy protection by law content.

Table 3: Highlight of Strengths and Opportunities for Kazakhstan

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	101
2.1.5 Adult literacy rate	6	2.1.2 ICT skills in the education system	103
2.3.1 Government online services	8	3.2.5 Privacy protection by law content	121
3.3.2 Socioeconomic gap in use of digital payments	9	1.3.4 Computer software spending	122
4.1.2 High-tech exports	9	3.2.2 ICT regulatory environment	129
1.1.1 Mobile tariffs	10		
4.2.3 Income inequality	13		
3.3.1 E-Participation	15		
2.1.1 Mobile broadband internet traffic within the country	23		
2.3.3 Government promotion of investment in emerging technologies	26		
4.2.2 Freedom to make life choices	32		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Kazakhstan

Network Readiness Index Rank: 58 (out of 134) Score: 50.97

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	79	37.92	C. Governance pillar	54	62.72
1st sub-pillar: Access	52	69.11	1st sub-pillar: Trust	48	59.13
2nd sub-pillar: Content	82	19.10	2nd sub-pillar: Regulation	104	54.01
3rd sub-pillar: Future Technologies	98	25.55	3rd sub-pillar: Inclusion	35	75.02
B. People pillar	49	47.86	D. Impact pillar	55	55.38
1st sub-pillar: Individuals	54	50.16	1st sub-pillar: Economy	63	29.77
2nd sub-pillar: Businesses	56	48.15	2nd sub-pillar: Quality of Life	35	77.63
3rd sub-pillar: Governments	48	45.27	3rd sub-pillar: SDG Contribution	88	58.75

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	79	37.92		**C. Governance pillar**	54	62.72	
1st sub-pillar: Access	52	69.11		*1st sub-pillar: Trust*	48	59.13	
1.1.1 Mobile tariffs	10	91.02	●	3.1.1 Secure Internet servers	51	64.66	
1.1.2 Handset prices	81	40.38		3.1.2 Cybersecurity	38	93.03	
1.1.3 FTTH/building Internet subscriptions	40	38.43		3.1.3 Online access to financial account	52	35.30	
1.1.4 Population covered by at least a 3G mobile network	76	99.34		3.1.4 Internet shopping	48	43.53	
1.1.5 International Internet bandwidth	37	76.36		*2nd sub-pillar: Regulation*	104	54.01	
1.1.6 Internet access in schools	NA	NA		3.2.1 Regulatory quality	65	51.63	
2nd sub-pillar: Content	82	19.10		3.2.2 ICT regulatory environment	129	45.88	○
1.2.1 GitHub commits	70	5.70		3.2.3 Regulation of emerging technologies	72	42.08	
1.2.2 Internet domain registrations	76	2.46		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	64	65.62		3.2.5 Privacy protection by law content	121	30.44	○
1.2.4 AI scientific publications	80	2.60		*3rd sub-pillar: Inclusion*	35	75.02	
3rd sub-pillar: Future Technologies	98	25.55		3.3.1 E-Participation	15	80.23	●
1.3.1 Adoption of emerging technologies	85	38.60		3.3.2 Socioeconomic gap in use of digital payments	9	98.66	●
1.3.2 Investment in emerging technologies	75	37.00		3.3.3 Availability of local online content	70	59.86	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	122	1.06	○
B. People pillar		49	47.86	
1st sub-pillar: Individuals		54	50.16	
2.1.1	Mobile broadband internet traffic within the country	23	34.87	●
2.1.2	ICT skills in the education system	103	13.53	○
2.1.3	Use of virtual social networks	78	56.79	
2.1.4	Tertiary enrollment	34	45.87	
2.1.5	Adult literacy rate	6	99.73	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		56	48.15	
2.2.1	Firms with website	64	47.25	
2.2.2	GERD financed by business enterprise	34	58.66	
2.2.3	Knowledge intensive employment	36	55.66	
2.2.4	Annual investment in telecommunication services	66	77.92	
2.2.5	GERD performed by business enterprise	71	1.26	
3rd sub-pillar: Governments		48	45.27	
2.3.1	Government online services	8	92.75	●
2.3.2	Publication and use of open data	61	26.47	
2.3.3	Government promotion of investment in emerging tech	26	59.71	●
2.3.4	R&D expenditure by governments and higher education	101	2.16	○

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	39	70.12	
3.3.5	Rural gap in use of digital payments	59	66.23	
D. Impact pillar		55	55.38	
1st sub-pillar: Economy		63	29.77	
4.1.1	High-tech and medium-high-tech manufacturing	74	17.56	
4.1.2	High-tech exports	9	59.19	●
4.1.3	PCT patent applications	76	1.71	
4.1.4	Domestic market size	42	61.92	
4.1.5	Prevalence of gig economy	78	35.76	
4.1.6	ICT services exports	111	2.47	
2nd sub-pillar: Quality of Life		35	77.63	
4.2.1	Happiness	54	67.96	
4.2.2	Freedom to make life choices	32	84.61	●
4.2.3	Income inequality	13	88.44	●
4.2.4	Healthy life expectancy at birth	75	69.50	
3rd sub-pillar: SDG Contribution		88	58.75	
4.3.1	SDG 3: Good Health and Well-Being	45	78.00	
4.3.2	SDG 4: Quality Education	61	27.87	
4.3.3	SDG 5: Women's economic opportunity	99	65.49	
4.3.4	SDG 7: Affordable and Clean Energy	114	50.94	
4.3.5	SDG 11: Sustainable Cities and Communities	54	71.43	

NOTE: ● a strength and ○ a weakness.

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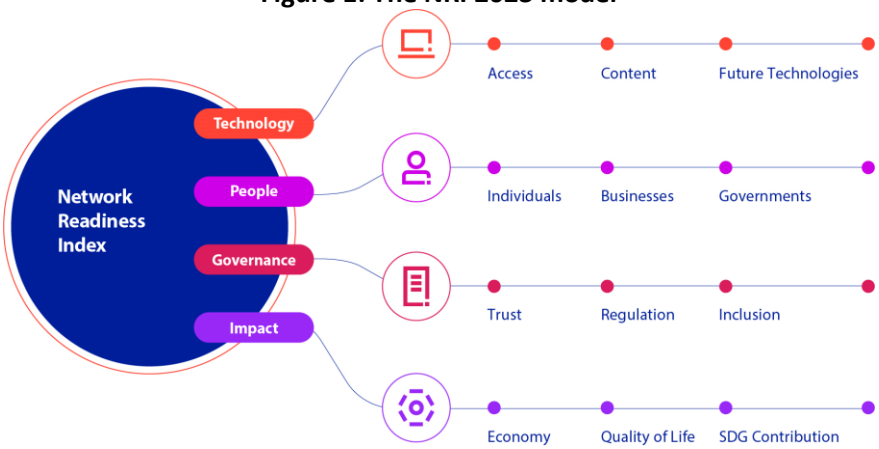
Kenya

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

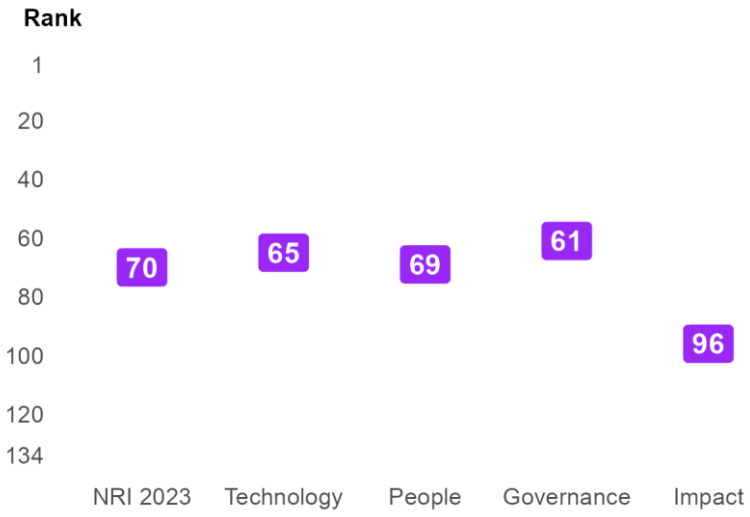
Figure 1: The NRI 2023 model



Global NRI position of Kenya

Kenya ranks 70th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Kenya global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kenya relate to Governments, Future Technologies and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Individuals and Quality of Life sub-pillars.

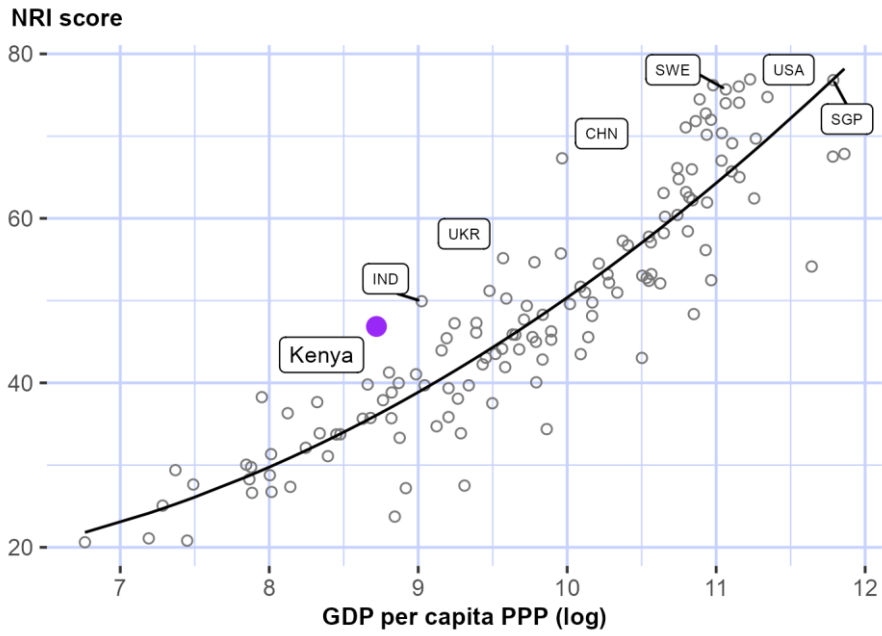
Table 1: Kenya rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	40	Access	76
Future Technologies	43	Inclusion	77
Trust	56	Content	83
Businesses	60	SDG Contribution	85
Regulation	64	Individuals	105
Economy	66	Quality of Life	113

NRI score and income

Figure 3 shows the position of Kenya in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kenya is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Kenya belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Kenya is ranked 6th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Africa

Kenya is ranked 1st within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Kenya against its income group and region, overall and by pillar

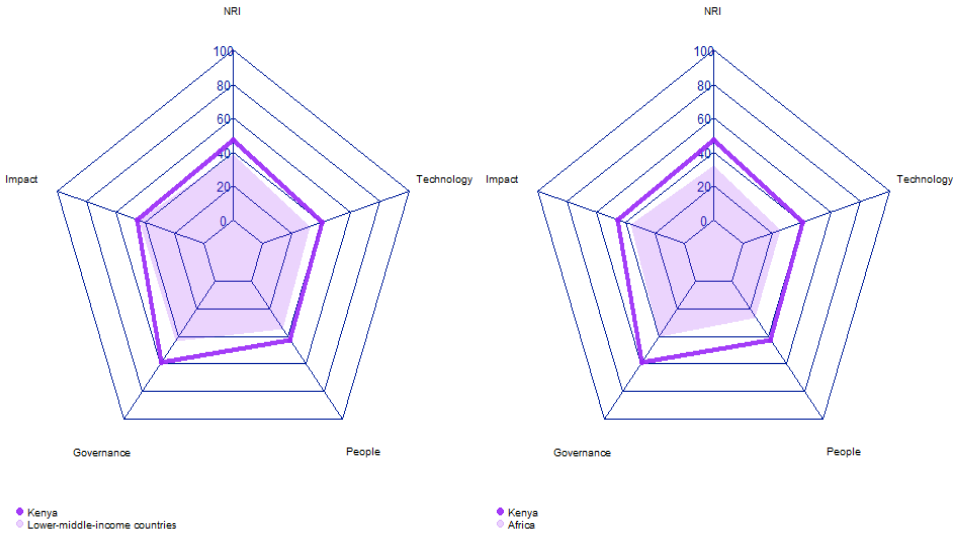


Table 2: Kenya scores vs. averages of its income group and region, overall and by pillar

Dimension	Kenya	Lower-middle-income countries	Africa
NRI	46.86	38.41	32.14
Technology	40.56	32.12	25.14
People	42.93	34.38	26.19
Governance	58.59	43.27	40.44
Impact	45.35	43.89	36.77

Strongest and weakest indicators

The indicators where Kenya performs particularly well include 3.2.4 E-commerce legislation, 1.1.5 International Internet bandwidth, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 2.1.4 Tertiary enrollment, 4.2.4 Healthy life expectancy at birth, and 2.1.3 Use of virtual social networks.

Table 3: Highlight of Strengths and Opportunities for Kenya

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	97
1.1.5 International Internet bandwidth	8	4.2.2 Freedom to make life choices	108
3.1.3 Online access to financial account	18	2.1.3 Use of virtual social networks	109
4.1.6 ICT services exports	23	4.2.4 Healthy life expectancy at birth	110
1.1.3 FTTH/building Internet subscriptions	28	2.1.4 Tertiary enrollment	113
1.3.2 Investment in emerging technologies	32		
3.2.2 ICT regulatory environment	34		
2.3.2 Publication and use of open data	41		
4.1.5 Prevalence of gig economy	41		
2.1.2 ICT skills in the education system	42		
2.1.1 Mobile broadband internet traffic within the country	49		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Kenya

Network Readiness Index Rank: 70 (out of 134) Score: 46.86

Pillar/sub-pillar	Rank	Score
A. Technology pillar	65	40.56
1st sub-pillar: Access	76	61.50
2nd sub-pillar: Content	83	19.05
3rd sub-pillar: Future Technologies	43	41.12
B. People pillar	69	42.93
1st sub-pillar: Individuals	105	33.79
2nd sub-pillar: Businesses	60	47.04
3rd sub-pillar: Governments	40	47.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	61	58.59
1st sub-pillar: Trust	56	52.48
2nd sub-pillar: Regulation	64	66.19
3rd sub-pillar: Inclusion	77	57.10
D. Impact pillar	96	45.35
1st sub-pillar: Economy	66	28.09
2nd sub-pillar: Quality of Life	113	48.73
3rd sub-pillar: SDG Contribution	85	59.24

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	65	40.56	
1st sub-pillar: Access	76	61.50	
1.1.1 Mobile tariffs	92	46.35	
1.1.2 Handset prices	109	28.28	
1.1.3 FTTH/building Internet subscriptions	28	43.90	•
1.1.4 Population covered by at least a 3G mobile network	76	99.34	
1.1.5 International Internet bandwidth	8	89.61	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	83	19.05	
1.2.1 GitHub commits	62	7.94	
1.2.2 Internet domain registrations	98	1.00	
1.2.3 Mobile apps development	87	59.37	
1.2.4 AI scientific publications	58	7.89	
3rd sub-pillar: Future Technologies	43	41.12	
1.3.1 Adoption of emerging technologies	55	50.77	
1.3.2 Investment in emerging technologies	32	60.00	•

Indicator	Rank	Score	
C. Governance pillar	61	58.59	
1st sub-pillar: Trust	56	52.48	
3.1.1 Secure Internet servers	86	43.98	
3.1.2 Cybersecurity	59	81.38	
3.1.3 Online access to financial account	18	66.35	•
3.1.4 Internet shopping	73	18.23	
2nd sub-pillar: Regulation	64	66.19	
3.2.1 Regulatory quality	94	39.54	
3.2.2 ICT regulatory environment	34	89.41	•
3.2.3 Regulation of emerging technologies	75	40.52	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	75	61.49	
3rd sub-pillar: Inclusion	77	57.10	
3.3.1 E-Participation	64	56.97	
3.3.2 Socioeconomic gap in use of digital payments	70	72.59	
3.3.3 Availability of local online content	83	51.44	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	84	12.61	
B. People pillar	69	42.93	
1st sub-pillar: Individuals	105	33.79	
2.1.1 Mobile broadband internet traffic within the country	49	14.10	●
2.1.2 ICT skills in the education system	42	57.43	●
2.1.3 Use of virtual social networks	109	16.23	○
2.1.4 Tertiary enrollment	113	4.94	○
2.1.5 Adult literacy rate	76	76.27	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	60	47.04	
2.2.1 Firms with website	71	43.67	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	90	18.00	
2.2.4 Annual investment in telecommunication services	53	79.45	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	40	47.95	
2.3.1 Government online services	68	64.87	
2.3.2 Publication and use of open data	41	38.24	●
2.3.3 Government promotion of investment in emerging tech	57	40.75	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	97	38.79	○
3.3.5 Rural gap in use of digital payments	61	65.69	
D. Impact pillar	96	45.35	
1st sub-pillar: Economy	66	28.09	
4.1.1 High-tech and medium-high-tech manufacturing	80	15.15	
4.1.2 High-tech exports	86	5.42	
4.1.3 PCT patent applications	90	0.66	
4.1.4 Domestic market size	59	55.57	
4.1.5 Prevalence of gig economy	41	56.10	●
4.1.6 ICT services exports	23	35.60	●
2nd sub-pillar: Quality of Life	113	48.73	
4.2.1 Happiness	103	38.98	
4.2.2 Freedom to make life choices	108	55.16	○
4.2.3 Income inequality	82	55.78	
4.2.4 Healthy life expectancy at birth	110	45.01	○
3rd sub-pillar: SDG Contribution	85	59.24	
4.3.1 SDG 3: Good Health and Well-Being	102	45.39	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	80	72.57	
4.3.4 SDG 7: Affordable and Clean Energy	100	61.27	
4.3.5 SDG 11: Sustainable Cities and Communities	79	57.73	

NOTE: ● a strength and ○ a weakness.

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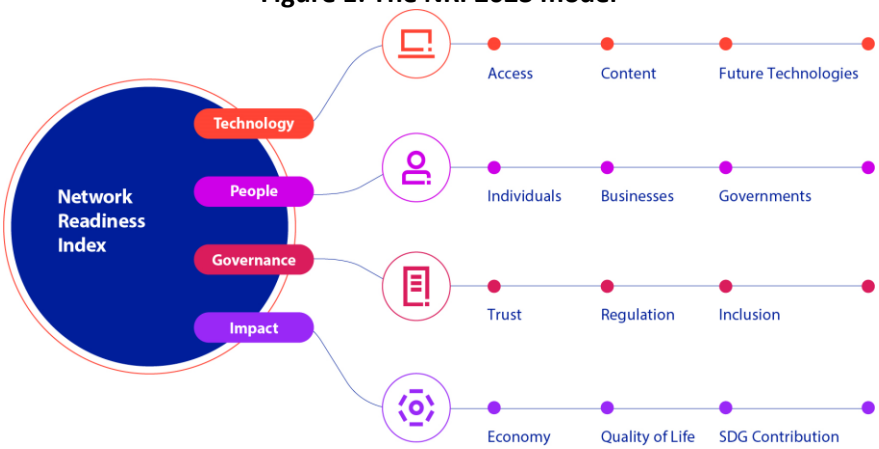
Korea, Rep.

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

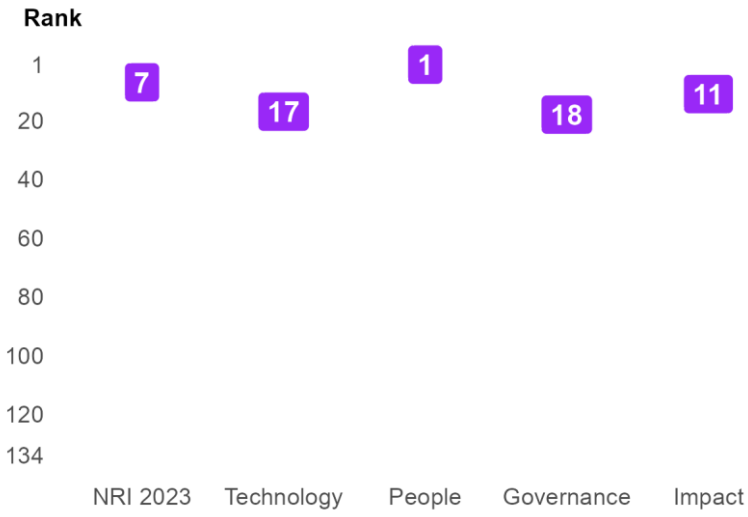
Figure 1: The NRI 2023 model



Global NRI position of Korea, Rep.

Korea, Rep. ranks 7th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Korea, Rep. global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Korea, Rep. relate to Individuals, Businesses and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Quality of Life and Regulation sub-pillars.

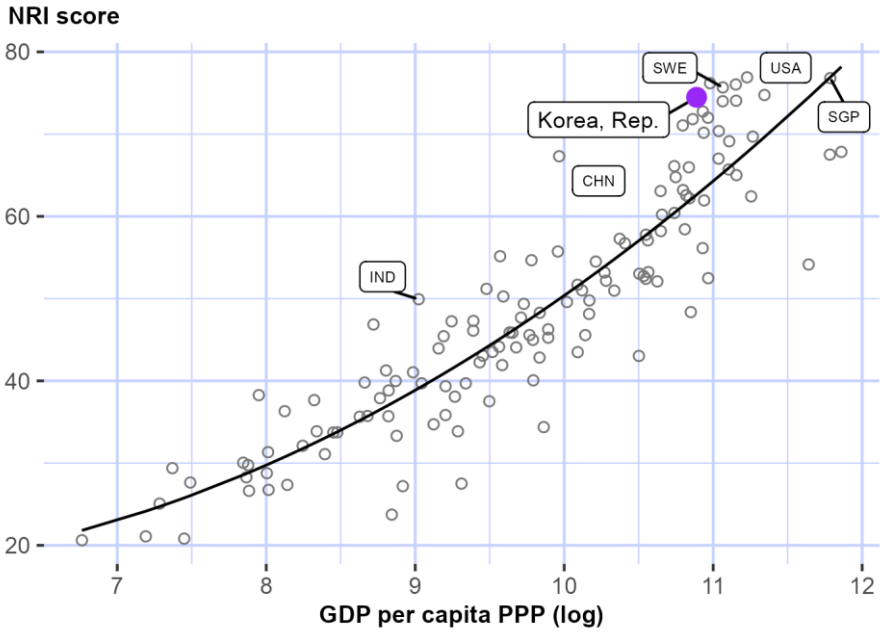
Table 1: Korea, Rep. rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	1	Inclusion	17
Businesses	1	Access	23
Governments	1	SDG Contribution	26
Economy	3	Content	30
Future Technologies	8	Quality of Life	40
Trust	10	Regulation	41

NRI score and income

Figure 3 shows the position of Korea, Rep. in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Korea, Rep. is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Korea, Rep. belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Korea, Rep. is ranked 7th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and SDG Contribution.

Asia & Pacific

Korea, Rep. is ranked 2nd within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Korea, Rep. against its income group and region, overall and by pillar

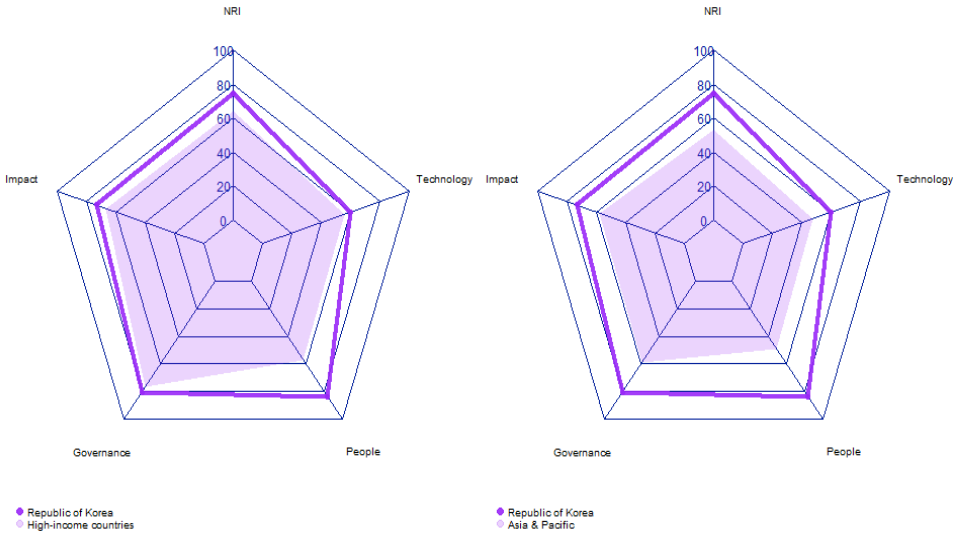


Table 2: Korea, Rep. scores vs. averages of its income group and region, overall and by pillar

Dimension	Korea, Rep.	High-income countries	Asia & Pacific
NRI	74.48	64.07	53.28
Technology	60.10	55.76	47.34
People	84.11	56.99	48.95
Governance	80.44	76.81	59.22
Impact	73.27	66.73	57.62

Strongest and weakest indicators

The indicators where Korea, Rep. performs particularly well include 1.1.6 Internet access in schools, 1.3.3 Robot density, and 2.1.6 AI talent concentration (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Korea, Rep.

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.1.1 Mobile tariffs	71
1.3.3 Robot density	1	4.2.2 Freedom to make life choices	100
2.1.6 AI talent concentration	1	4.3.4 SDG 7: Affordable and Clean Energy	101
2.2.5 GERD performed by business enterprise	1	3.2.2 ICT regulatory environment	105
3.2.4 E-commerce legislation	1		
2.3.4 R&D expenditure by governments and higher education	2		
4.1.3 PCT patent applications	2		
2.3.1 Government online services	3		
4.2.4 Healthy life expectancy at birth	3		
2.1.3 Use of virtual social networks	4		
2.1.4 Tertiary enrollment	4		
2.2.2 GERD financed by business enterprise	4		
3.1.4 Internet shopping	5		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Korea, Rep.

Network Readiness Index — Rank: 7 (out of 134) — Score: 74.48

Pillar/sub-pillar	Rank	Score
A. Technology pillar	17	60.10
1st sub-pillar: Access	23	75.76
2nd sub-pillar: Content	30	40.42
3rd sub-pillar: Future Technologies	8	64.12
B. People pillar	1	84.11
1st sub-pillar: Individuals	1	79.88
2nd sub-pillar: Businesses	1	82.85
3rd sub-pillar: Governments	1	89.59
C. Governance pillar	18	80.44
1st sub-pillar: Trust	10	85.10
2nd sub-pillar: Regulation	41	75.26
3rd sub-pillar: Inclusion	17	80.96
D. Impact pillar	11	73.27
1st sub-pillar: Economy	3	65.35
2nd sub-pillar: Quality of Life	40	75.23
3rd sub-pillar: SDG Contribution	26	79.22

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	17	60.10	
1st sub-pillar: Access	23	75.76	
1.1.1 Mobile tariffs	71	59.86	○
1.1.2 Handset prices	54	55.03	
1.1.3 FTTH/building Internet subscriptions	12	59.11	
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	22	80.61	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	30	40.42	
1.2.1 GitHub commits	25	46.41	
1.2.2 Internet domain registrations	47	8.85	
1.2.3 Mobile apps development	21	75.94	
1.2.4 AI scientific publications	16	30.49	
3rd sub-pillar: Future Technologies	8	64.12	
1.3.1 Adoption of emerging technologies	20	75.40	
1.3.2 Investment in emerging technologies	34	59.50	

Indicator	Rank	Score	
C. Governance pillar	18	80.44	
1st sub-pillar: Trust	10	85.10	
3.1.1 Secure Internet servers	47	69.34	
3.1.2 Cybersecurity	5	98.49	
3.1.3 Online access to financial account	9	82.64	
3.1.4 Internet shopping	5	89.91	●
2nd sub-pillar: Regulation	41	75.26	
3.2.1 Regulatory quality	28	74.44	
3.2.2 ICT regulatory environment	105	66.12	○
3.2.3 Regulation of emerging technologies	32	64.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	52	71.07	
3rd sub-pillar: Inclusion	17	80.96	
3.3.1 E-Participation	9	94.19	
3.3.2 Socioeconomic gap in use of digital payments	26	93.43	
3.3.3 Availability of local online content	32	81.01	

Indicator	Rank	Score	
1.3.3 Robot density	1	100.00	●
1.3.4 Computer software spending	65	21.58	
B. People pillar	1	84.11	
1st sub-pillar: Individuals	1	79.88	
2.1.1 Mobile broadband internet traffic within the country	15	44.36	
2.1.2 ICT skills in the education system	12	81.92	
2.1.3 Use of virtual social networks	4	87.29	●
2.1.4 Tertiary enrollment	4	67.32	●
2.1.5 Adult literacy rate	23	98.36	
2.1.6 AI talent concentration	1	100.00	●
2nd sub-pillar: Businesses	1	82.85	
2.2.1 Firms with website	33	69.79	
2.2.2 GERD financed by business enterprise	4	94.16	●
2.2.3 Knowledge intensive employment	30	60.01	
2.2.4 Annual investment in telecommunication services	10	90.28	
2.2.5 GERD performed by business enterprise	1	100.00	●
3rd sub-pillar: Governments	1	89.59	
2.3.1 Government online services	3	98.08	●
2.3.2 Publication and use of open data	4	94.12	
2.3.3 Government promotion of investment in emerging tech	10	77.46	
2.3.4 R&D expenditure by governments and higher education	2	88.70	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	43	69.52	
3.3.5 Rural gap in use of digital payments	57	66.67	
D. Impact pillar	11	73.27	
1st sub-pillar: Economy	3	65.35	
4.1.1 High-tech and medium-high-tech manufacturing	7	70.83	
4.1.2 High-tech exports	6	64.53	
4.1.3 PCT patent applications	2	98.56	●
4.1.4 Domestic market size	14	76.85	
4.1.5 Prevalence of gig economy	20	68.31	
4.1.6 ICT services exports	67	13.03	
2nd sub-pillar: Quality of Life	40	75.23	
4.2.1 Happiness	58	66.91	
4.2.2 Freedom to make life choices	100	58.07	○
4.2.3 Income inequality	27	79.40	
4.2.4 Healthy life expectancy at birth	3	96.53	●
3rd sub-pillar: SDG Contribution	26	79.22	
4.3.1 SDG 3: Good Health and Well-Being	6	96.29	
4.3.2 SDG 4: Quality Education	6	75.76	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	101	60.48	○
4.3.5 SDG 11: Sustainable Cities and Communities	29	84.81	

NOTE: ● a strength and ○ a weakness.

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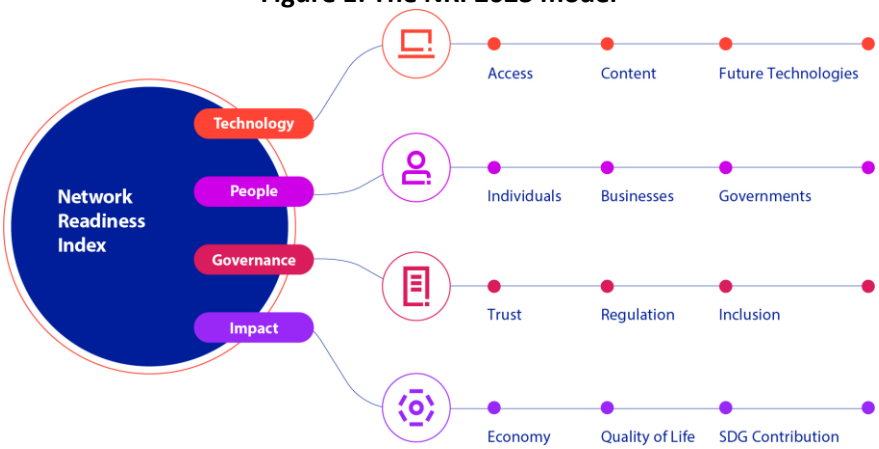
Kuwait

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

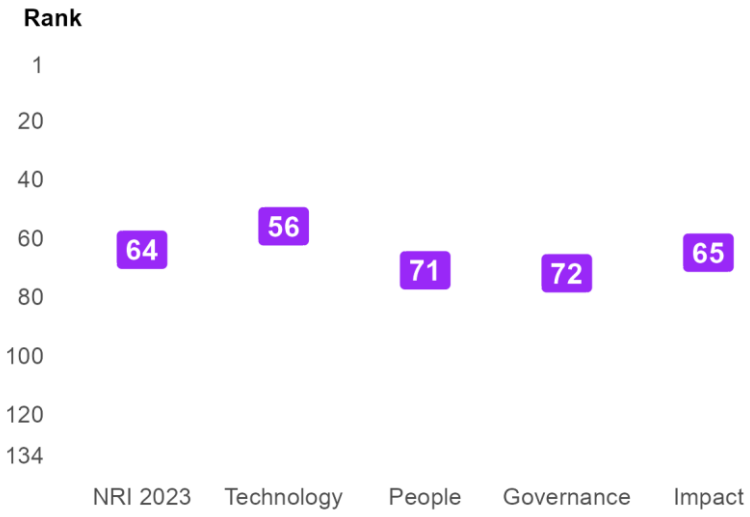
Figure 1: The NRI 2023 model



Global NRI position of Kuwait

Kuwait ranks 64th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Kuwait global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kuwait relate to Quality of Life, Individuals and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Content and SDG Contribution sub-pillars.

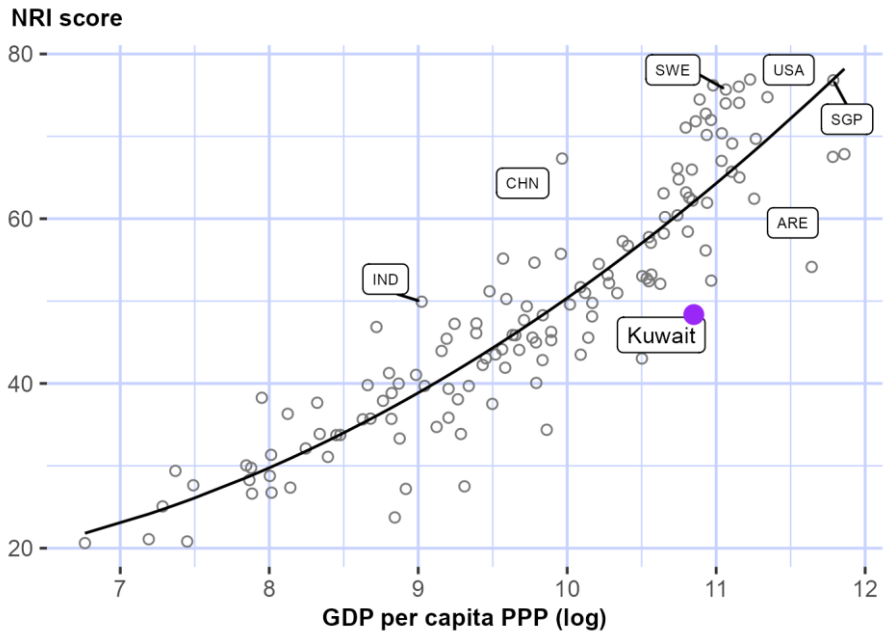
Table 1: Kuwait rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	30	Governments	74
Individuals	33	Regulation	80
Future Technologies	38	Inclusion	81
Access	54	Businesses	89
Economy	56	Content	90
Trust	67	SDG Contribution	110

NRI score and income

Figure 3 shows the position of Kuwait in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kuwait is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Kuwait belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Kuwait is ranked 47th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

Arab States

Kuwait is ranked 6th within Arab States (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in Arab States in eight of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Economy and Quality of Life.

Figure 4: Performance of Kuwait against its income group and region, overall and by pillar

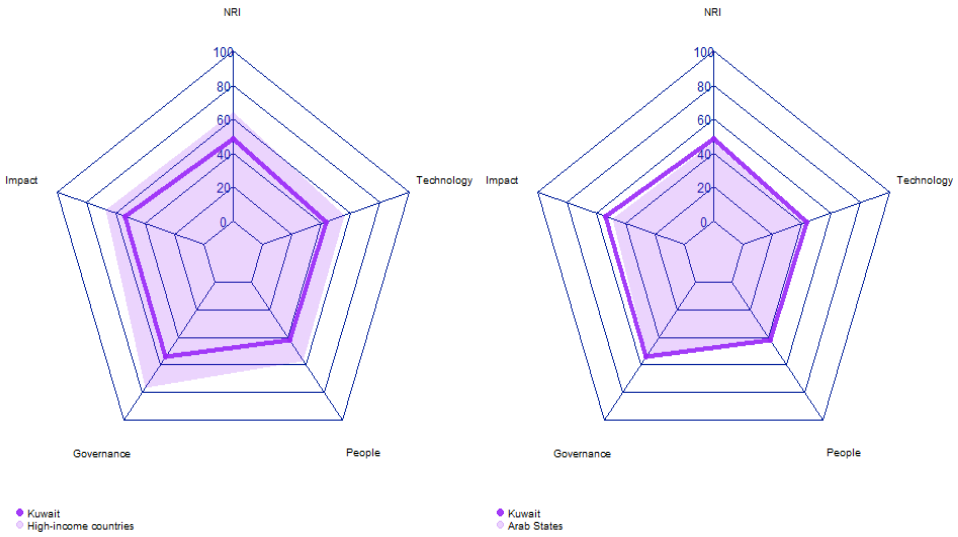


Table 2: Kuwait scores vs. averages of its income group and region, overall and by pillar

Dimension	Kuwait	High-income countries	Arab States
NRI	48.36	64.07	46.59
Technology	43.14	55.76	41.17
People	42.27	56.99	42.66
Governance	54.17	76.81	53.45
Impact	53.86	66.73	49.08

Strongest and weakest indicators

The indicators where Kuwait performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.3.5 Rural gap in use of digital payments, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Kuwait

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.2 GERD financed by business enterprise	92
1.1.6 Internet access in schools	1	4.3.4 SDG 7: Affordable and Clean Energy	115
3.2.4 E-commerce legislation	1	1.1.3 FTTH/building Internet subscriptions	117
4.1.6 ICT services exports	10	3.3.5 Rural gap in use of digital payments	124
2.1.3 Use of virtual social networks	19	4.3.3 SDG 5: Women's economic opportunity	132
1.3.4 Computer software spending	24		
3.3.4 Gender gap in Internet use	25		
2.1.1 Mobile broadband internet traffic within the country	27		
4.2.4 Healthy life expectancy at birth	29		
1.1.2 Handset prices	39		
4.2.2 Freedom to make life choices	41		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Kuwait

Network Readiness Index Rank: 64 (out of 134) Score: 48.36

Pillar/sub-pillar	Rank	Score
A. Technology pillar	56	43.14
1st sub-pillar: Access	54	68.59
2nd sub-pillar: Content	90	18.08
3rd sub-pillar: Future Technologies	38	42.76
B. People pillar	71	42.27
1st sub-pillar: Individuals	33	54.27
2nd sub-pillar: Businesses	89	36.46
3rd sub-pillar: Governments	74	36.08

Pillar/sub-pillar	Rank	Score
C. Governance pillar	72	54.17
1st sub-pillar: Trust	67	44.83
2nd sub-pillar: Regulation	80	62.07
3rd sub-pillar: Inclusion	81	55.61
D. Impact pillar	65	53.86
1st sub-pillar: Economy	56	31.68
2nd sub-pillar: Quality of Life	30	79.47
3rd sub-pillar: SDG Contribution	110	50.43

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	56	43.14	
1st sub-pillar: Access	54	68.59	
1.1.1 Mobile tariffs	54	67.95	
1.1.2 Handset prices	39	65.55	●
1.1.3 FTTH/building Internet subscriptions	117	5.16	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	59	72.86	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	90	18.08	
1.2.1 GitHub commits	101	1.95	
1.2.2 Internet domain registrations	65	4.07	
1.2.3 Mobile apps development	67	65.32	
1.2.4 AI scientific publications	104	0.99	
3rd sub-pillar: Future Technologies	38	42.76	
1.3.1 Adoption of emerging technologies	77	42.95	
1.3.2 Investment in emerging technologies	57	42.50	

Indicator	Rank	Score	
C. Governance pillar	72	54.17	
1st sub-pillar: Trust	67	44.83	
3.1.1 Secure Internet servers	77	47.92	
3.1.2 Cybersecurity	73	74.63	
3.1.3 Online access to financial account	55	34.02	
3.1.4 Internet shopping	64	22.76	
2nd sub-pillar: Regulation	80	62.07	
3.2.1 Regulatory quality	61	53.55	
3.2.2 ICT regulatory environment	95	69.41	
3.2.3 Regulation of emerging technologies	76	39.22	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	101	48.18	
3rd sub-pillar: Inclusion	81	55.61	
3.3.1 E-Participation	67	53.49	
3.3.2 Socioeconomic gap in use of digital payments	64	76.49	
3.3.3 Availability of local online content	48	68.51	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	24	42.84	●
B. People pillar	71	42.27	
1st sub-pillar: Individuals	33	54.27	
2.1.1 Mobile broadband internet traffic within the country	27	30.26	●
2.1.2 ICT skills in the education system	89	28.91	
2.1.3 Use of virtual social networks	19	79.18	●
2.1.4 Tertiary enrollment	53	37.85	
2.1.5 Adult literacy rate	41	95.16	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	89	36.46	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	92	1.18	○
2.2.3 Knowledge intensive employment	63	32.42	
2.2.4 Annual investment in telecommunication services	81	75.79	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	74	36.08	
2.3.1 Government online services	66	66.55	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	62	38.52	
2.3.4 R&D expenditure by governments and higher education	91	3.18	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	25	72.04	●
3.3.5 Rural gap in use of digital payments	124	7.53	○
D. Impact pillar	65	53.86	
1st sub-pillar: Economy	56	31.68	
4.1.1 High-tech and medium-high-tech manufacturing	61	24.80	
4.1.2 High-tech exports	107	2.20	
4.1.3 PCT patent applications	89	0.67	
4.1.4 Domestic market size	63	53.32	
4.1.5 Prevalence of gig economy	46	53.20	
4.1.6 ICT services exports	10	55.91	●
2nd sub-pillar: Quality of Life	30	79.47	
4.2.1 Happiness	48	69.82	
4.2.2 Freedom to make life choices	41	82.00	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	29	86.58	●
3rd sub-pillar: SDG Contribution	110	50.43	
4.3.1 SDG 3: Good Health and Well-Being	73	67.63	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	132	7.96	○
4.3.4 SDG 7: Affordable and Clean Energy	115	50.72	○
4.3.5 SDG 11: Sustainable Cities and Communities	49	75.41	

NOTE: ● a strength and ○ a weakness.

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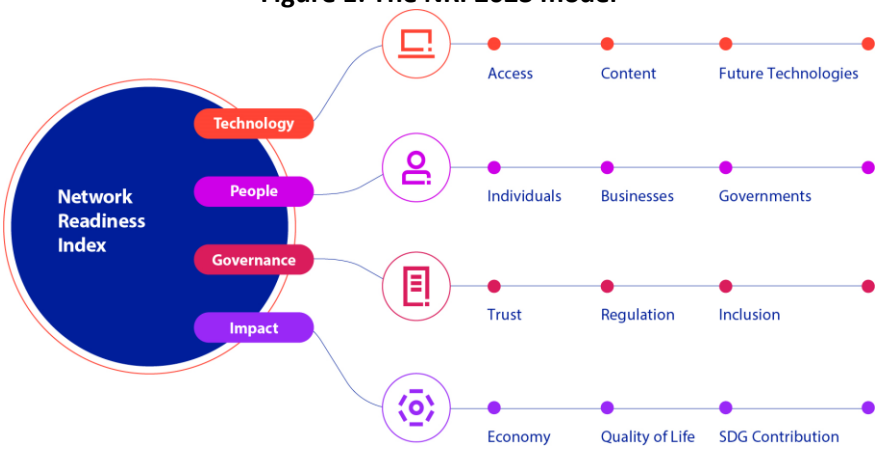
Kyrgyzstan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

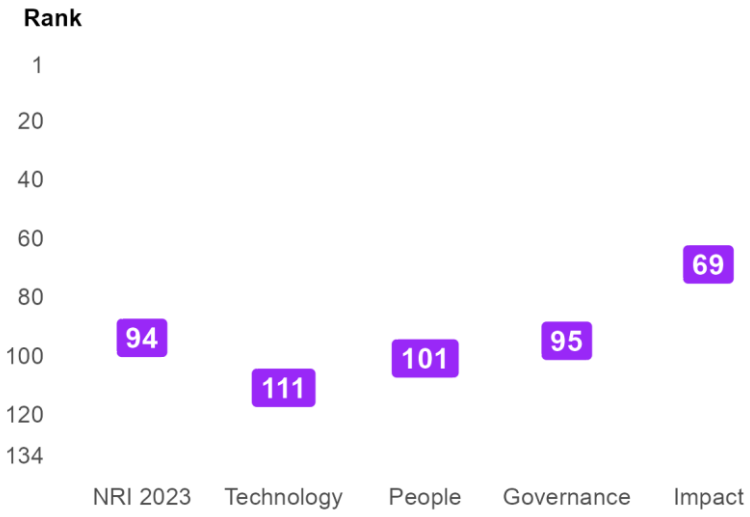
Figure 1: The NRI 2023 model



Global NRI position of Kyrgyzstan

Kyrgyzstan ranks 94th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Kyrgyzstan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Kyrgyzstan relate to Quality of Life, Inclusion and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Regulation and Future Technologies sub-pillars.

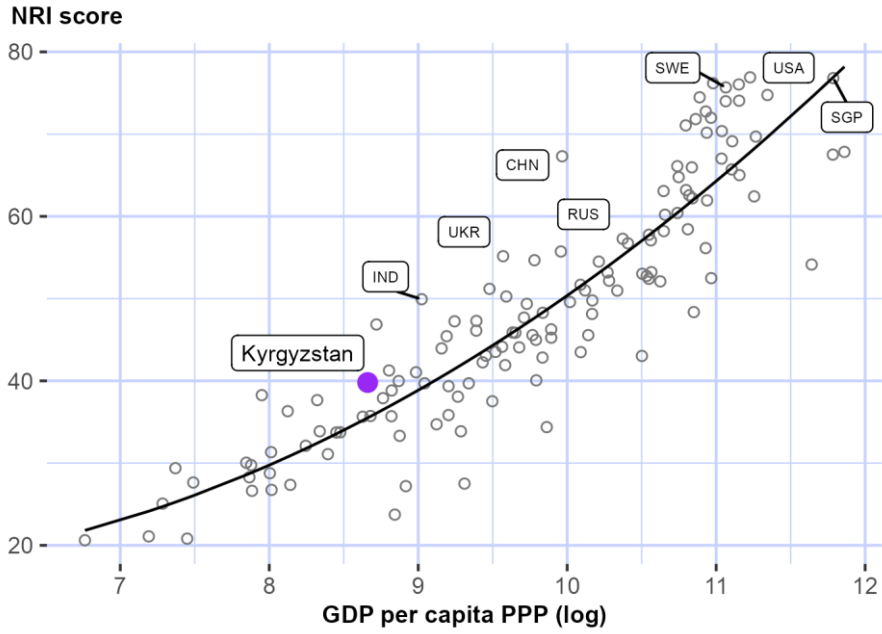
Table 1: Kyrgyzstan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	33	Trust	101
Inclusion	58	Businesses	102
SDG Contribution	64	Governments	107
Individuals	88	Economy	112
Content	89	Regulation	115
Access	100	Future Technologies	129

NRI score and income

Figure 3 shows the position of Kyrgyzstan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Kyrgyzstan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Kyrgyzstan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Lower-middle-income countries

Kyrgyzstan is ranked 16th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, Governance and Impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Content, Individuals, Inclusion, Quality of Life and SDG Contribution.

CIS

Kyrgyzstan is ranked 6th within CIS (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in CIS in three of the twelve sub-pillars: Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Kyrgyzstan against its income group and region, overall and by pillar

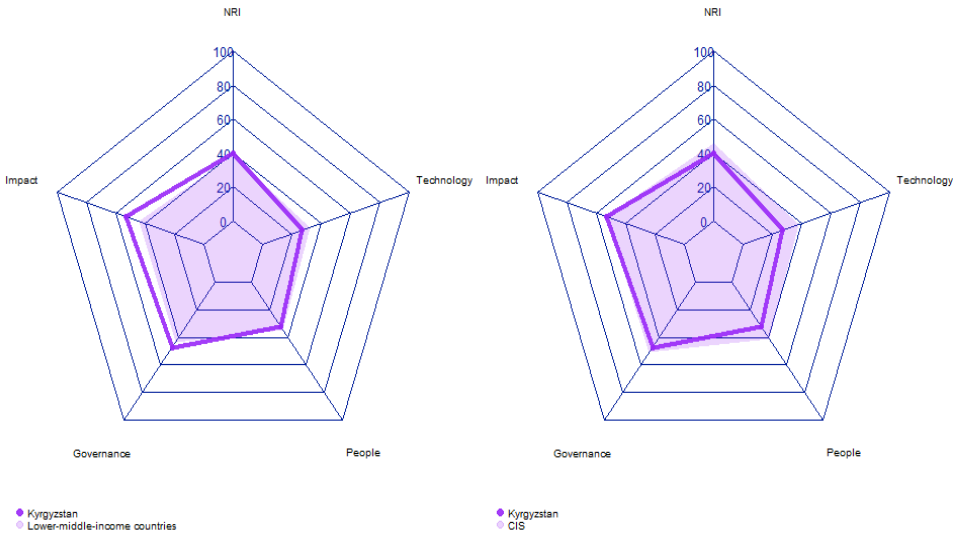


Table 2: Kyrgyzstan scores vs. averages of its income group and region, overall and by pillar

Dimension	Kyrgyzstan	Lower-middle-income countries	CIS
NRI	39.80	38.41	45.81
Technology	27.07	32.12	38.11
People	31.90	34.38	41.35
Governance	47.22	43.27	51.08
Impact	53.00	43.89	52.69

Strongest and weakest indicators

The indicators where Kyrgyzstan performs particularly well include 4.2.2 Freedom to make life choices, 2.1.5 Adult literacy rate, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.3.1 Adoption of emerging technologies, 1.3.2 Investment in emerging technologies, and 4.1.1 High-tech and medium-high-tech manufacturing.

Table 3: Highlight of Strengths and Opportunities for Kyrgyzstan

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	4	4.1.3 PCT patent applications	99
2.1.5 Adult literacy rate	12	2.3.4 R&D expenditure by governments and higher education	107
4.2.3 Income inequality	17	4.1.1 High-tech and medium-high-tech manufacturing	108
3.3.2 Socioeconomic gap in use of digital payments	30	1.3.2 Investment in emerging technologies	120
4.1.2 High-tech exports	32	1.3.1 Adoption of emerging technologies	122
3.3.5 Rural gap in use of digital payments	40		
2.2.1 Firms with website	56		
2.1.4 Tertiary enrollment	64		
4.3.1 SDG 3: Good Health and Well-Being	66		
1.2.1 GitHub commits	67		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Kyrgyzstan

Network Readiness Index Rank: 94 (out of 134) Score: 39.80

Pillar/sub-pillar	Rank	Score
A. Technology pillar	111	27.07
1st sub-pillar: Access	100	49.37
2nd sub-pillar: Content	89	18.16
3rd sub-pillar: Future Technologies	129	13.69
B. People pillar	101	31.90
1st sub-pillar: Individuals	88	41.23
2nd sub-pillar: Businesses	102	32.10
3rd sub-pillar: Governments	107	22.36

Pillar/sub-pillar	Rank	Score
C. Governance pillar	95	47.22
1st sub-pillar: Trust	101	29.61
2nd sub-pillar: Regulation	115	48.47
3rd sub-pillar: Inclusion	58	63.59
D. Impact pillar	69	53.00
1st sub-pillar: Economy	112	15.64
2nd sub-pillar: Quality of Life	33	78.68
3rd sub-pillar: SDG Contribution	64	64.67

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	111	27.07	
1st sub-pillar: Access	100	49.37	
1.1.1 Mobile tariffs	100	42.77	
1.1.2 Handset prices	113	26.94	
1.1.3 FTTH/building Internet subscriptions	81	23.89	
1.1.4 Population covered by at least a 3G mobile network	105	96.86	
1.1.5 International Internet bandwidth	101	64.40	
1.1.6 Internet access in schools	56	41.37	
2nd sub-pillar: Content	89	18.16	
1.2.1 GitHub commits	67	6.86	•
1.2.2 Internet domain registrations	106	0.59	
1.2.3 Mobile apps development	74	63.85	
1.2.4 AI scientific publications	98	1.33	
3rd sub-pillar: Future Technologies	129	13.69	
1.3.1 Adoption of emerging technologies	122	15.66	○
1.3.2 Investment in emerging technologies	120	19.25	○

Indicator	Rank	Score	
C. Governance pillar	95	47.22	
1st sub-pillar: Trust	101	29.61	
3.1.1 Secure Internet servers	76	48.21	
3.1.2 Cybersecurity	96	48.75	
3.1.3 Online access to financial account	105	10.62	
3.1.4 Internet shopping	87	10.86	
2nd sub-pillar: Regulation	115	48.47	
3.2.1 Regulatory quality	101	36.55	
3.2.2 ICT regulatory environment	106	65.88	
3.2.3 Regulation of emerging technologies	92	27.53	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	106	45.70	
3rd sub-pillar: Inclusion	58	63.59	
3.3.1 E-Participation	78	48.84	
3.3.2 Socioeconomic gap in use of digital payments	30	92.28	•
3.3.3 Availability of local online content	98	41.35	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	95	6.16	
B. People pillar		101	31.90	
1st sub-pillar: Individuals		88	41.23	
2.1.1	Mobile broadband internet traffic within the country	71	8.06	
2.1.2	ICT skills in the education system	93	26.85	
2.1.3	Use of virtual social networks	98	37.54	
2.1.4	Tertiary enrollment	64	34.25	●
2.1.5	Adult literacy rate	12	99.45	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		102	32.10	
2.2.1	Firms with website	56	55.11	●
2.2.2	GERD financed by business enterprise	79	8.58	
2.2.3	Knowledge intensive employment	78	24.94	
2.2.4	Annual investment in telecommunication services	111	71.20	
2.2.5	GERD performed by business enterprise	77	0.69	
3rd sub-pillar: Governments		107	22.36	
2.3.1	Government online services	80	57.74	
2.3.2	Publication and use of open data	82	13.24	
2.3.3	Government promotion of investment in emerging tech	111	17.05	
2.3.4	R&D expenditure by governments and higher education	107	1.42	○

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	40	71.88	●
D. Impact pillar		69	53.00	
1st sub-pillar: Economy		112	15.64	
4.1.1	High-tech and medium-high-tech manufacturing	108	0.00	○
4.1.2	High-tech exports	32	28.29	●
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	119	34.59	
4.1.5	Prevalence of gig economy	95	28.49	
4.1.6	ICT services exports	112	2.47	
2nd sub-pillar: Quality of Life		33	78.68	
4.2.1	Happiness	75	61.66	
4.2.2	Freedom to make life choices	4	95.50	●
4.2.3	Income inequality	17	85.43	●
4.2.4	Healthy life expectancy at birth	69	72.13	
3rd sub-pillar: SDG Contribution		64	64.67	
4.3.1	SDG 3: Good Health and Well-Being	66	68.88	●
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	96	67.26	
4.3.4	SDG 7: Affordable and Clean Energy	106	57.51	
4.3.5	SDG 11: Sustainable Cities and Communities	69	65.02	

NOTE: ● a strength and ○ a weakness.

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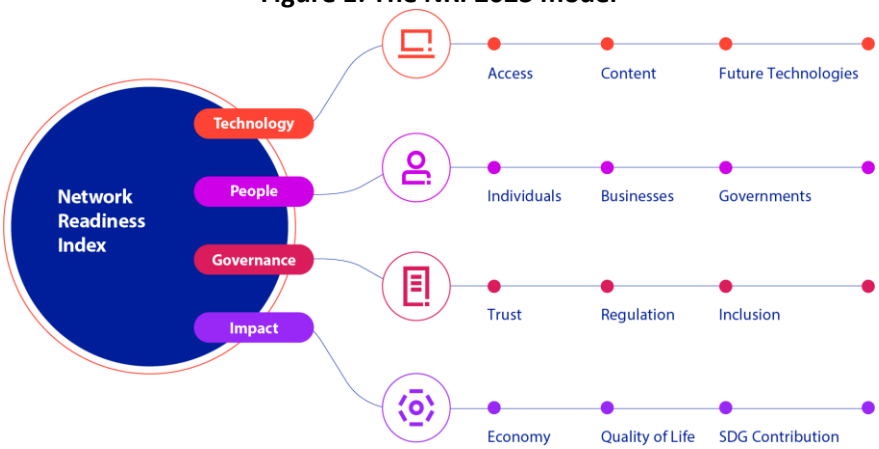
Lao PDR

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

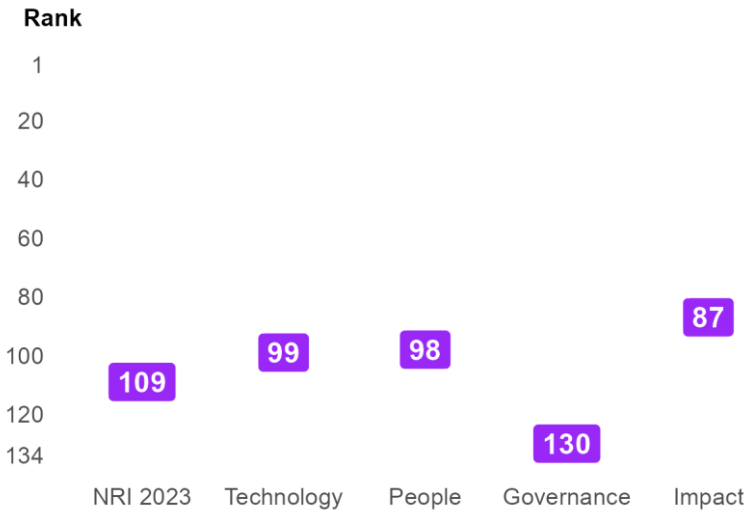
Figure 1: The NRI 2023 model



Global NRI position of Lao PDR

Lao PDR ranks 109th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Lao PDR global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lao PDR relate to Future Technologies, Governments and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Content and Inclusion sub-pillars.

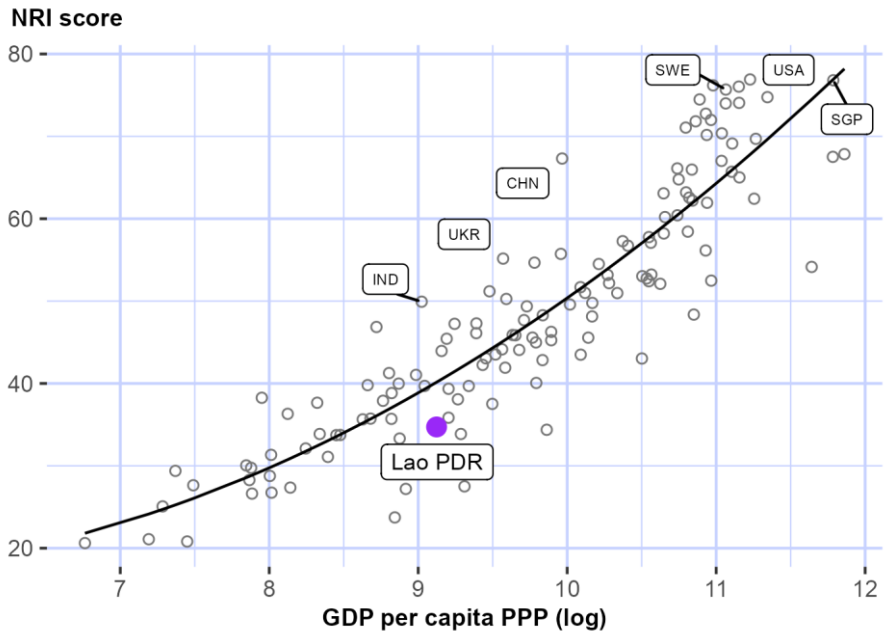
Table 1: Lao PDR rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	46	Individuals	98
Governments	77	Businesses	116
Economy	78	Trust	123
Quality of Life	82	Regulation	125
SDG Contribution	91	Content	126
Access	98	Inclusion	126

NRI score and income

Figure 3 shows the position of Lao PDR in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lao PDR is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Lao PDR belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Lao PDR is ranked 28th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Future Technologies, Governments, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

Lao PDR is ranked 20th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Lao PDR against its income group and region, overall and by pillar

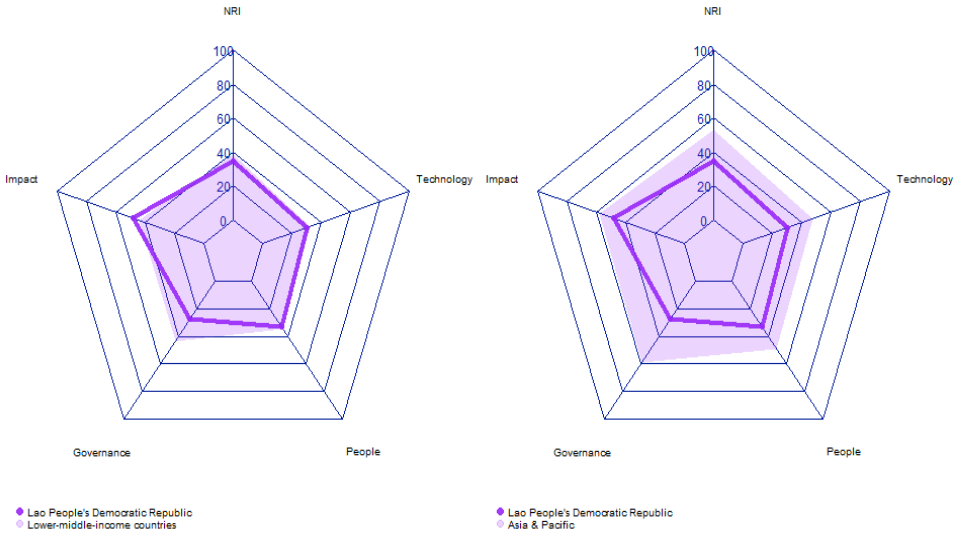


Table 2: Lao PDR scores vs. averages of its income group and region, overall and by pillar

Dimension	Lao PDR	Lower-middle-income countries	Asia & Pacific
NRI	34.72	38.41	53.28
Technology	30.12	32.12	47.34
People	33.17	34.38	48.95
Governance	27.68	43.27	59.22
Impact	47.91	43.89	57.62

Strongest and weakest indicators

The indicators where Lao PDR performs particularly well include 4.2.2 Freedom to make life choices, 4.1.2 High-tech exports, and 2.3.3 Government promotion of investment in emerging technologies (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.2.4 AI scientific publications, 3.2.5 Privacy protection by law content, and 3.3.2 Socioeconomic gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Lao PDR

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	13	3.1.3 Online access to financial account	122
4.1.2 High-tech exports	16	2.2.4 Annual investment in telecommunication services	123
2.3.3 Government promotion of investment in emerging technologies	43	1.2.4 AI scientific publications	129
4.1.5 Prevalence of gig economy	43	3.2.5 Privacy protection by law content	129
1.3.4 Computer software spending	46	3.3.2 Socioeconomic gap in use of digital payments	129
4.3.3 SDG 5: Women's economic opportunity	48	3.2.2 ICT regulatory environment	130
1.3.2 Investment in emerging technologies	51		
2.1.2 ICT skills in the education system	57		
1.3.1 Adoption of emerging technologies	70		
3.3.3 Availability of local online content	73		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Lao PDR

Network Readiness Index Rank: 109 (out of 134) Score: 34.72

Pillar/sub-pillar	Rank	Score
A. Technology pillar	99	30.12
1st sub-pillar: Access	98	50.12
2nd sub-pillar: Content	126	0.99
3rd sub-pillar: Future Technologies	46	39.25
B. People pillar	98	33.17
1st sub-pillar: Individuals	98	37.34
2nd sub-pillar: Businesses	116	26.93
3rd sub-pillar: Governments	77	35.23

Pillar/sub-pillar	Rank	Score
C. Governance pillar	130	27.68
1st sub-pillar: Trust	123	16.53
2nd sub-pillar: Regulation	125	36.47
3rd sub-pillar: Inclusion	126	30.05
D. Impact pillar	87	47.91
1st sub-pillar: Economy	78	24.30
2nd sub-pillar: Quality of Life	82	63.78
3rd sub-pillar: SDG Contribution	91	55.64

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	99	30.12	
1st sub-pillar: Access	98	50.12	
1.1.1 Mobile tariffs	97	43.59	
1.1.2 Handset prices	94	36.52	
1.1.3 FTTH/building Internet subscriptions	98	14.38	
1.1.4 Population covered by at least a 3G mobile network	114	94.47	
1.1.5 International Internet bandwidth	114	61.64	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	126	0.99	
1.2.1 GitHub commits	120	0.61	
1.2.2 Internet domain registrations	79	2.28	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	129	0.09	○
3rd sub-pillar: Future Technologies	46	39.25	
1.3.1 Adoption of emerging technologies	70	44.69	●
1.3.2 Investment in emerging technologies	51	46.25	●
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	130	27.68	
1st sub-pillar: Trust	123	16.53	
3.1.1 Secure Internet servers	113	31.56	
3.1.2 Cybersecurity	117	18.94	
3.1.3 Online access to financial account	122	5.12	○
3.1.4 Internet shopping	89	10.49	
2nd sub-pillar: Regulation	125	36.47	
3.2.1 Regulatory quality	120	29.55	
3.2.2 ICT regulatory environment	130	26.71	○
3.2.3 Regulation of emerging technologies	69	43.12	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	129	16.30	○
3rd sub-pillar: Inclusion	126	30.05	
3.3.1 E-Participation	114	24.42	
3.3.2 Socioeconomic gap in use of digital payments	129	14.18	○
3.3.3 Availability of local online content	73	56.49	●
3.3.4 Gender gap in Internet use	NA	NA	

Indicator	Rank	Score	
1.3.4 Computer software spending	46	26.80	●
B. People pillar	98	33.17	
1st sub-pillar: Individuals	98	37.34	
2.1.1 Mobile broadband internet traffic within the country	93	2.93	
2.1.2 ICT skills in the education system	57	53.96	●
2.1.3 Use of virtual social networks	94	40.57	
2.1.4 Tertiary enrollment	106	6.92	
2.1.5 Adult literacy rate	71	82.35	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	116	26.93	
2.2.1 Firms with website	93	24.72	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	93	17.65	
2.2.4 Annual investment in telecommunication services	123	38.41	○
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	77	35.23	
2.3.1 Government online services	127	22.69	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	43	47.77	●
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	114	25.09	
D. Impact pillar	87	47.91	
1st sub-pillar: Economy	78	24.30	
4.1.1 High-tech and medium-high-tech manufacturing	101	3.69	
4.1.2 High-tech exports	16	41.76	●
4.1.3 PCT patent applications	92	0.60	
4.1.4 Domestic market size	100	40.45	
4.1.5 Prevalence of gig economy	43	54.36	●
4.1.6 ICT services exports	96	4.93	
2nd sub-pillar: Quality of Life	82	63.78	
4.2.1 Happiness	92	47.88	
4.2.2 Freedom to make life choices	13	91.95	●
4.2.3 Income inequality	73	60.80	
4.2.4 Healthy life expectancy at birth	100	54.50	
3rd sub-pillar: SDG Contribution	91	55.64	
4.3.1 SDG 3: Good Health and Well-Being	111	36.00	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	48	83.19	●
4.3.4 SDG 7: Affordable and Clean Energy	105	58.38	
4.3.5 SDG 11: Sustainable Cities and Communities	103	45.00	

NOTE: ● a strength and ○ a weakness.

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Latvia

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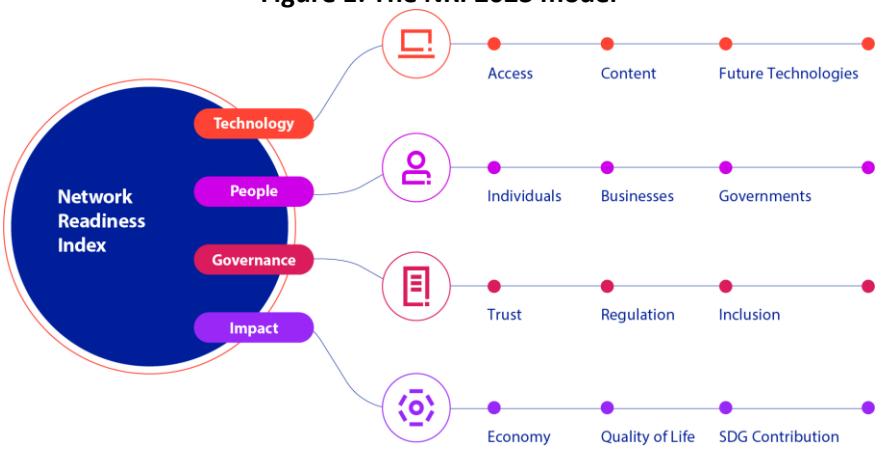
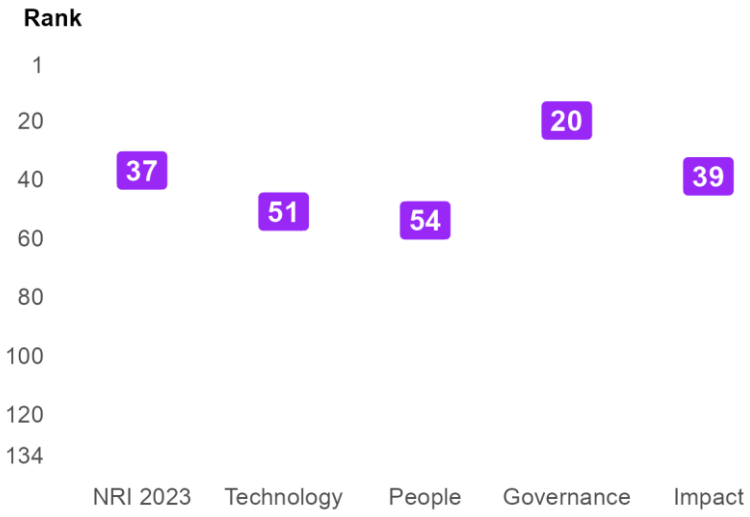
Figure 1: The NRI 2023 model



Global NRI position of Latvia

Latvia ranks 37th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Latvia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Latvia relate to Regulation, Trust and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Governments and Future Technologies sub-pillars.

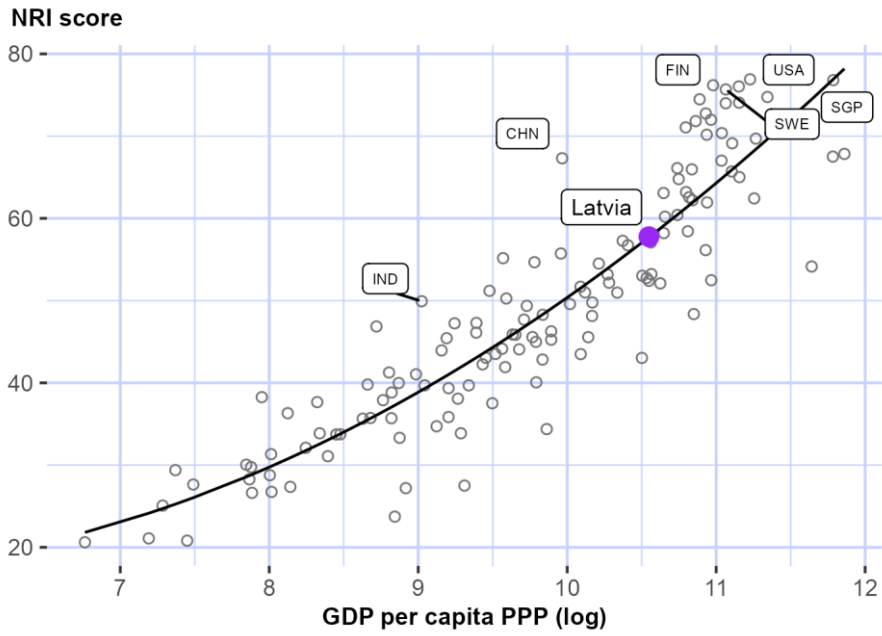
Table 1: Latvia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	18	Businesses	51
Trust	20	Access	53
Inclusion	25	Individuals	53
SDG Contribution	37	Quality of Life	56
Content	38	Governments	67
Economy	46	Future Technologies	80

NRI score and income

Figure 3 shows the position of Latvia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Latvia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Latvia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Latvia is ranked 36th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Governance. At the sub-pillar level, it outperforms high-income countries in three of the twelve sub-pillars: Trust, Regulation and Inclusion.

Europe

Latvia is ranked 27th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Trust, Regulation and Inclusion.

Figure 4: Performance of Latvia against its income group and region, overall and by pillar

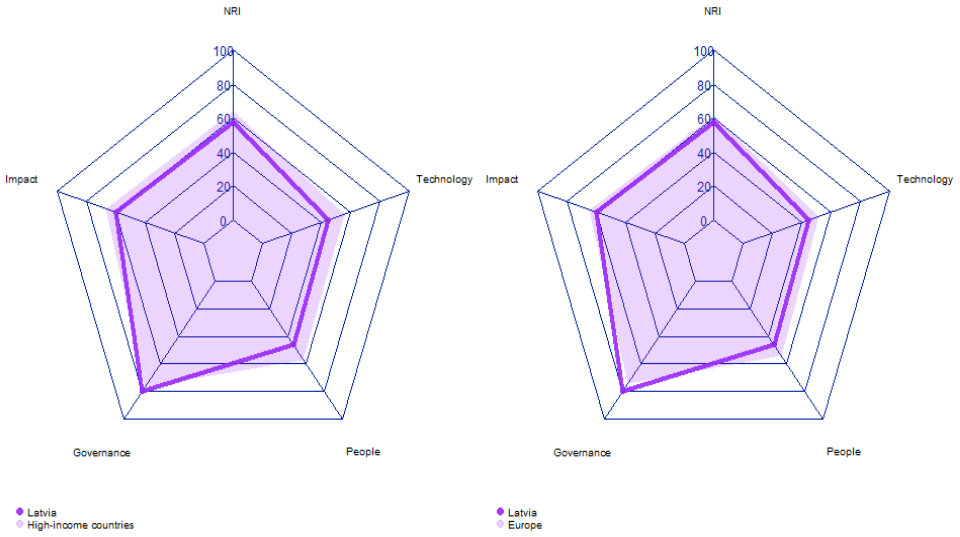


Table 2: Latvia scores vs. averages of its income group and region, overall and by pillar

Dimension	Latvia	High-income countries	Europe
NRI	57.77	64.07	61.25
Technology	44.53	55.76	51.90
People	46.34	56.99	54.16
Governance	80.22	76.81	74.33
Impact	59.99	66.73	64.61

Strongest and weakest indicators

The indicators where Latvia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 2.2.4 Annual investment in telecommunication services, and 4.1.4 Domestic market size.

Table 3: Highlight of Strengths and Opportunities for Latvia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	43
3.2.4 E-commerce legislation	1	1.3.3 Robot density	47
4.3.3 SDG 5: Women's economic opportunity	1	2.2.4 Annual investment in telecommunication services	97
3.2.5 Privacy protection by law content	2	4.1.4 Domestic market size	97
2.1.5 Adult literacy rate	3	1.1.5 International Internet bandwidth	100
2.1.4 Tertiary enrollment	8		
3.1.3 Online access to financial account	16		
3.3.4 Gender gap in Internet use	17		
1.2.3 Mobile apps development	20		
3.1.2 Cybersecurity	21		
4.1.6 ICT services exports	21		
2.2.3 Knowledge intensive employment	23		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Latvia

Network Readiness Index Rank: 37 (out of 134) Score: 57.77

Pillar/sub-pillar	Rank	Score
A. Technology pillar	51	44.53
1st sub-pillar: Access	53	68.81
2nd sub-pillar: Content	38	35.67
3rd sub-pillar: Future Technologies	80	29.11
B. People pillar	54	46.34
1st sub-pillar: Individuals	53	50.19
2nd sub-pillar: Businesses	51	49.60
3rd sub-pillar: Governments	67	39.23

Pillar/sub-pillar	Rank	Score
C. Governance pillar	20	80.22
1st sub-pillar: Trust	20	78.02
2nd sub-pillar: Regulation	18	84.33
3rd sub-pillar: Inclusion	25	78.30
D. Impact pillar	39	59.99
1st sub-pillar: Economy	46	34.44
2nd sub-pillar: Quality of Life	56	71.21
3rd sub-pillar: SDG Contribution	37	74.32

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	51	44.53	
1st sub-pillar: Access	53	68.81	
1.1.1 Mobile tariffs	59	64.04	
1.1.2 Handset prices	45	60.83	
1.1.3 FTTH/building Internet subscriptions	82	23.75	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	100	64.58	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	38	35.67	
1.2.1 GitHub commits	28	40.42	
1.2.2 Internet domain registrations	31	24.31	
1.2.3 Mobile apps development	20	75.97	●
1.2.4 AI scientific publications	88	1.99	
3rd sub-pillar: Future Technologies	80	29.11	
1.3.1 Adoption of emerging technologies	38	61.35	
1.3.2 Investment in emerging technologies	54	44.75	
1.3.3 Robot density	47	1.54	○

Indicator	Rank	Score	
C. Governance pillar	20	80.22	
1st sub-pillar: Trust	20	78.02	
3.1.1 Secure Internet servers	36	79.16	
3.1.2 Cybersecurity	21	97.23	●
3.1.3 Online access to financial account	16	69.36	●
3.1.4 Internet shopping	27	66.34	
2nd sub-pillar: Regulation	18	84.33	
3.2.1 Regulatory quality	25	77.24	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	39	61.04	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	2	96.32	●
3rd sub-pillar: Inclusion	25	78.30	
3.3.1 E-Participation	29	73.25	
3.3.2 Socioeconomic gap in use of digital payments	31	91.94	
3.3.3 Availability of local online content	31	81.25	
3.3.4 Gender gap in Internet use	17	73.74	●

Indicator	Rank	Score	
1.3.4 Computer software spending	91	8.79	
B. People pillar	54	46.34	
1st sub-pillar: Individuals	53	50.19	
2.1.1 Mobile broadband internet traffic within the country	48	14.21	
2.1.2 ICT skills in the education system	71	45.11	
2.1.3 Use of virtual social networks	32	75.95	
2.1.4 Tertiary enrollment	8	61.95	●
2.1.5 Adult literacy rate	3	99.85	●
2.1.6 AI talent concentration	43	4.08	○
2nd sub-pillar: Businesses	51	49.60	
2.2.1 Firms with website	39	67.40	
2.2.2 GERD financed by business enterprise	61	33.39	
2.2.3 Knowledge intensive employment	23	68.40	●
2.2.4 Annual investment in telecommunication services	97	73.00	○
2.2.5 GERD performed by business enterprise	50	5.79	
3rd sub-pillar: Governments	67	39.23	
2.3.1 Government online services	35	79.39	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	67	37.31	
2.3.4 R&D expenditure by governments and higher education	51	12.28	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	45	71.31	
D. Impact pillar	39	59.99	
1st sub-pillar: Economy	46	34.44	
4.1.1 High-tech and medium-high-tech manufacturing	65	21.09	
4.1.2 High-tech exports	28	30.51	
4.1.3 PCT patent applications	29	20.75	
4.1.4 Domestic market size	97	40.95	○
4.1.5 Prevalence of gig economy	40	56.40	
4.1.6 ICT services exports	21	36.92	●
2nd sub-pillar: Quality of Life	56	71.21	
4.2.1 Happiness	49	68.86	
4.2.2 Freedom to make life choices	68	73.65	
4.2.3 Income inequality	54	68.59	
4.2.4 Healthy life expectancy at birth	62	73.72	
3rd sub-pillar: SDG Contribution	37	74.32	
4.3.1 SDG 3: Good Health and Well-Being	61	71.24	
4.3.2 SDG 4: Quality Education	28	62.57	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	47	75.72	
4.3.5 SDG 11: Sustainable Cities and Communities	73	62.07	

NOTE: ● a strength and ○ a weakness.

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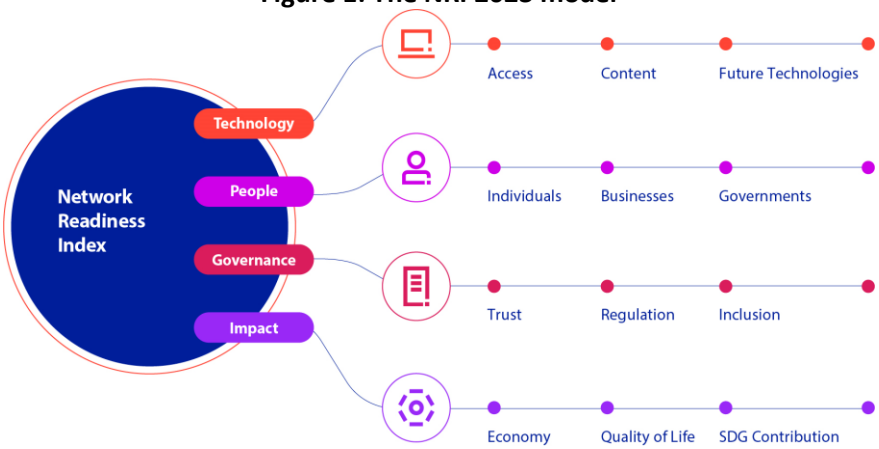
Lebanon

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

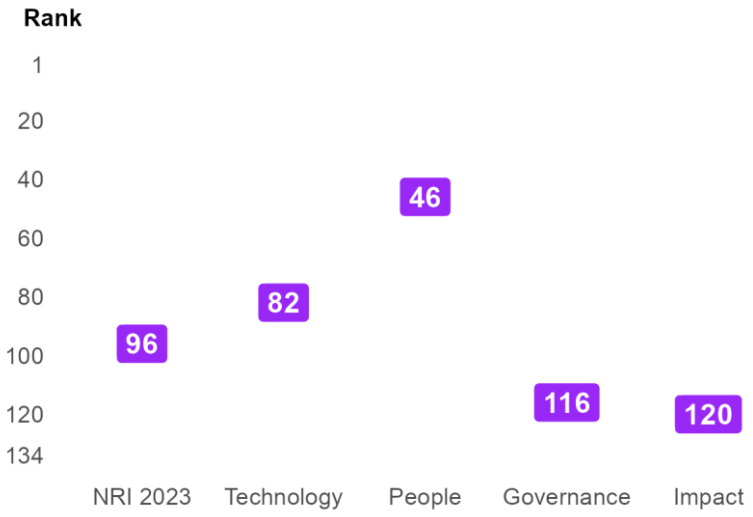
Figure 1: The NRI 2023 model



Global NRI position of Lebanon

Lebanon ranks 96th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Lebanon global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lebanon relate to Individuals, Businesses and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Regulation and Quality of Life sub-pillars.

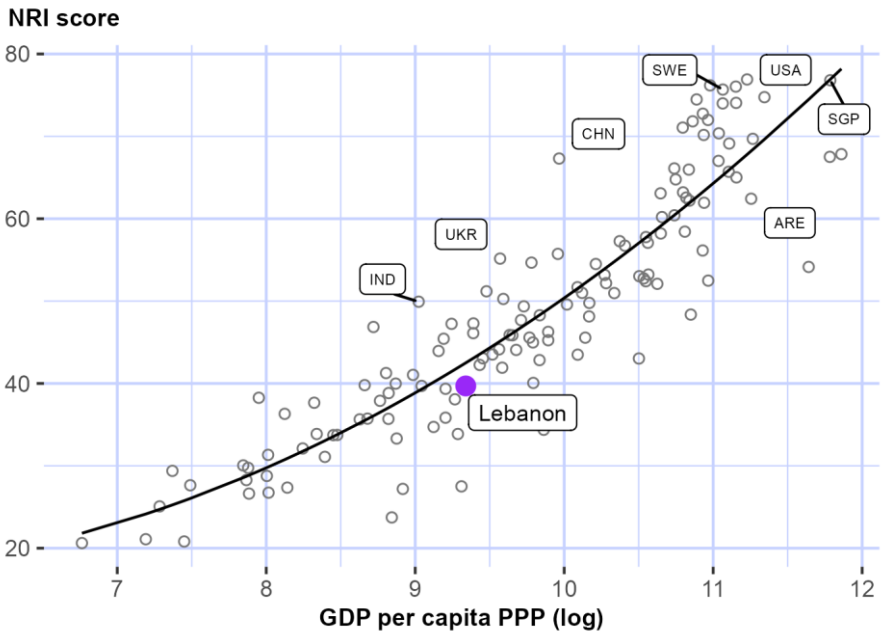
Table 1: Lebanon rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	14	Future Technologies	87
Businesses	32	SDG Contribution	94
Content	64	Governments	105
Economy	76	Trust	110
Access	78	Regulation	129
Inclusion	86	Quality of Life	132

NRI score and income

Figure 3 shows the position of Lebanon in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lebanon is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Lebanon belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Lebanon is ranked 18th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, Technology and People. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Inclusion, Economy and SDG Contribution.

Arab States

Lebanon is ranked 11th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in Arab States in three of the twelve sub-pillars: Content, Individuals and Businesses.

Figure 4: Performance of Lebanon against its income group and region, overall and by pillar

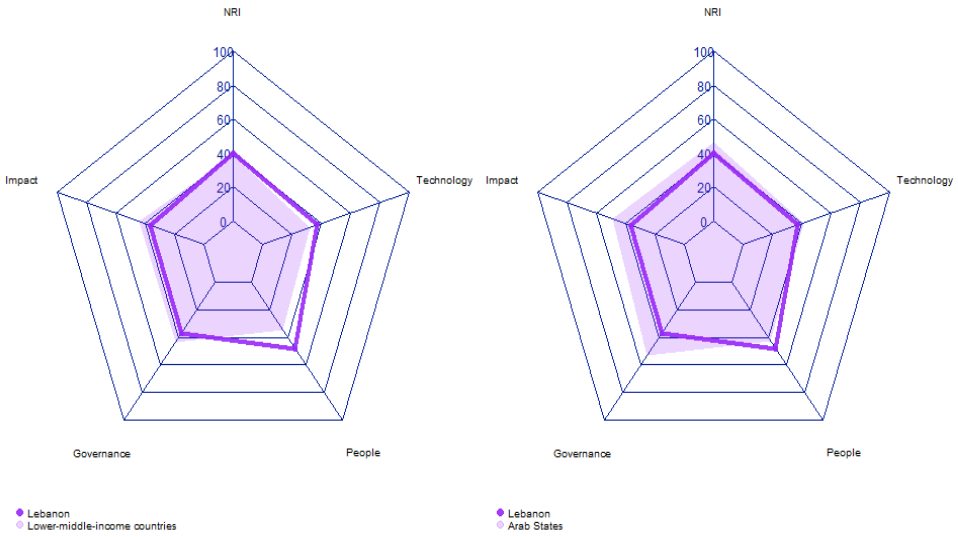


Table 2: Lebanon scores vs. averages of its income group and region, overall and by pillar

Dimension	Lebanon	Lower-middle-income countries	Arab States
NRI	39.70	38.41	46.59
Technology	37.43	32.12	41.17
People	48.08	34.38	42.66
Governance	37.11	43.27	53.45
Impact	36.16	43.89	49.08

Strongest and weakest indicators

The indicators where Lebanon performs particularly well include 2.1.3 Use of virtual social networks, 1.2.3 Mobile apps development, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.2.1 Happiness, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Lebanon

Strongest indicators	Rank	Weakest indicators	Rank
2.1.3 Use of virtual social networks	5	2.3.2 Publication and use of open data	97
1.2.3 Mobile apps development	25	2.1.1 Mobile broadband internet traffic within the country	112
1.1.6 Internet access in schools	37	4.2.2 Freedom to make life choices	128
2.2.1 Firms with website	44	4.2.1 Happiness	130
3.3.5 Rural gap in use of digital payments	44	3.2.2 ICT regulatory environment	132
4.3.4 SDG 7: Affordable and Clean Energy	47		
1.1.4 Population covered by at least a 3G mobile network	49		
2.2.3 Knowledge intensive employment	49		
1.2.1 GitHub commits	55		
4.1.6 ICT services exports	58		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Lebanon

Network Readiness Index Rank: 96 (out of 134) Score: 39.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	82	37.43
1st sub-pillar: Access	78	60.78
2nd sub-pillar: Content	64	23.48
3rd sub-pillar: Future Technologies	87	28.03
B. People pillar	46	48.08
1st sub-pillar: Individuals	14	60.10
2nd sub-pillar: Businesses	32	60.47
3rd sub-pillar: Governments	105	23.68

Pillar/sub-pillar	Rank	Score
C. Governance pillar	116	37.11
1st sub-pillar: Trust	110	24.00
2nd sub-pillar: Regulation	129	33.73
3rd sub-pillar: Inclusion	86	53.60
D. Impact pillar	120	36.16
1st sub-pillar: Economy	76	25.10
2nd sub-pillar: Quality of Life	132	28.42
3rd sub-pillar: SDG Contribution	94	54.96

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	82	37.43	
1st sub-pillar: Access	78	60.78	
1.1.1 Mobile tariffs	124	13.31	
1.1.2 Handset prices	103	31.05	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	49	99.87	•
1.1.5 International Internet bandwidth	90	66.82	
1.1.6 Internet access in schools	37	92.86	•
2nd sub-pillar: Content	64	23.48	
1.2.1 GitHub commits	55	9.03	•
1.2.2 Internet domain registrations	64	4.08	
1.2.3 Mobile apps development	25	75.41	•
1.2.4 AI scientific publications	69	5.37	
3rd sub-pillar: Future Technologies	87	28.03	
1.3.1 Adoption of emerging technologies	80	40.87	
1.3.2 Investment in emerging technologies	63	40.75	

Indicator	Rank	Score	
C. Governance pillar	116	37.11	
1st sub-pillar: Trust	110	24.00	
3.1.1 Secure Internet servers	82	46.14	
3.1.2 Cybersecurity	108	29.22	
3.1.3 Online access to financial account	101	12.96	
3.1.4 Internet shopping	101	7.69	
2nd sub-pillar: Regulation	129	33.73	
3.2.1 Regulatory quality	119	29.66	
3.2.2 ICT regulatory environment	132	12.94	○
3.2.3 Regulation of emerging technologies	96	24.94	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	119	34.46	
3rd sub-pillar: Inclusion	86	53.60	
3.3.1 E-Participation	88	38.37	
3.3.2 Socioeconomic gap in use of digital payments	102	52.99	
3.3.3 Availability of local online content	81	51.68	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	112	2.47	
B. People pillar	46	48.08	
1st sub-pillar: Individuals	14	60.10	
2.1.1 Mobile broadband internet traffic within the country	112	0.90	○
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	5	85.83	●
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	48	93.58	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	32	60.47	
2.2.1 Firms with website	44	62.38	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	49	40.33	●
2.2.4 Annual investment in telecommunication services	59	78.70	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	105	23.68	
2.3.1 Government online services	110	36.53	
2.3.2 Publication and use of open data	97	5.88	○
2.3.3 Government promotion of investment in emerging tech	94	28.62	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	44	71.37	●
D. Impact pillar	120	36.16	
1st sub-pillar: Economy	76	25.10	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	95	3.66	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	93	41.72	
4.1.5 Prevalence of gig economy	68	38.37	
4.1.6 ICT services exports	58	16.63	●
2nd sub-pillar: Quality of Life	132	28.42	
4.2.1 Happiness	130	0.00	○
4.2.2 Freedom to make life choices	128	12.49	○
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	66	72.76	
3rd sub-pillar: SDG Contribution	94	54.96	
4.3.1 SDG 3: Good Health and Well-Being	60	71.60	
4.3.2 SDG 4: Quality Education	70	17.44	
4.3.3 SDG 5: Women's economic opportunity	122	41.59	
4.3.4 SDG 7: Affordable and Clean Energy	47	75.72	●
4.3.5 SDG 11: Sustainable Cities and Communities	59	68.47	

NOTE: ● a strength and ○ a weakness.

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Lesotho

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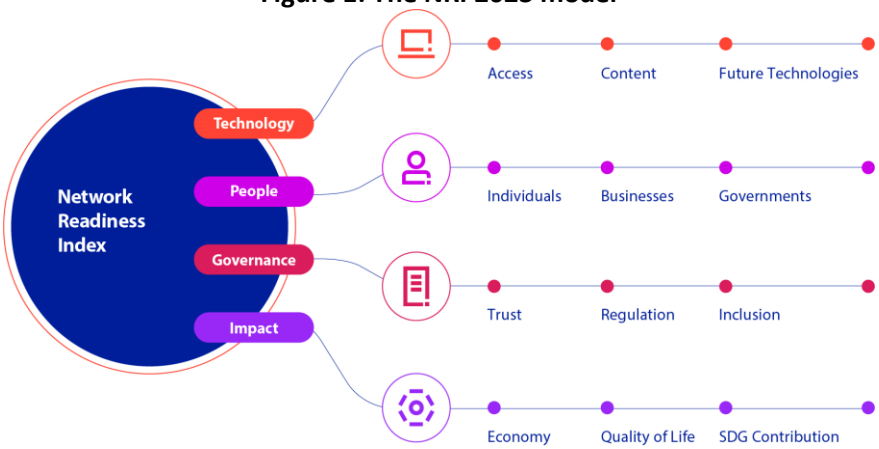
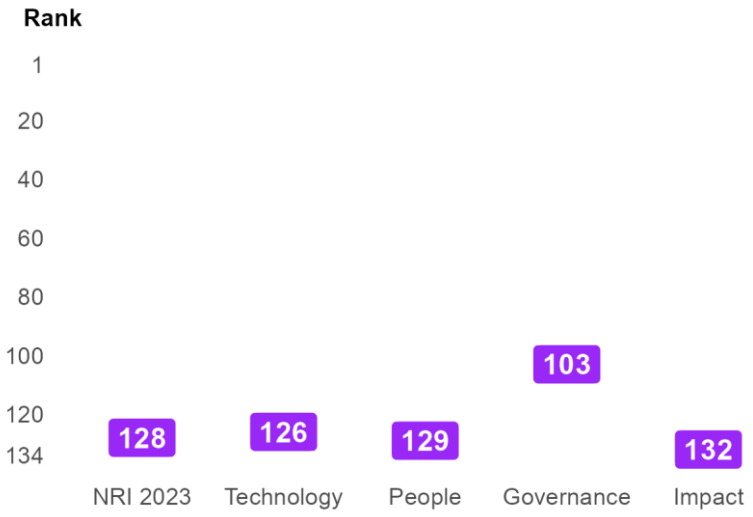
Figure 1: The NRI 2023 model



Global NRI position of Lesotho

Lesotho ranks 128th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Lesotho global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lesotho relate to Inclusion, Trust and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Governments and Economy sub-pillars.

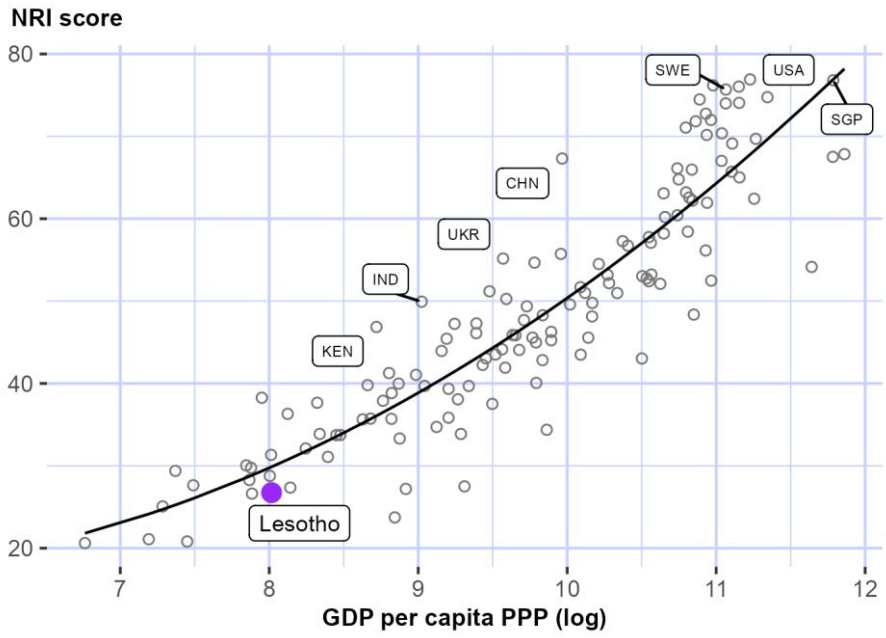
Table 1: Lesotho rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	67	Businesses	124
Trust	111	SDG Contribution	124
Individuals	118	Content	131
Future Technologies	119	Quality of Life	131
Regulation	119	Governments	132
Access	121	Economy	133

NRI score and income

Figure 3 shows the position of Lesotho in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lesotho is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Lesotho belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Lesotho is ranked 39th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Inclusion.

Africa

Lesotho is ranked 26th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Africa in one of the twelve sub-pillars: Inclusion.

Figure 4: Performance of Lesotho against its income group and region, overall and by pillar

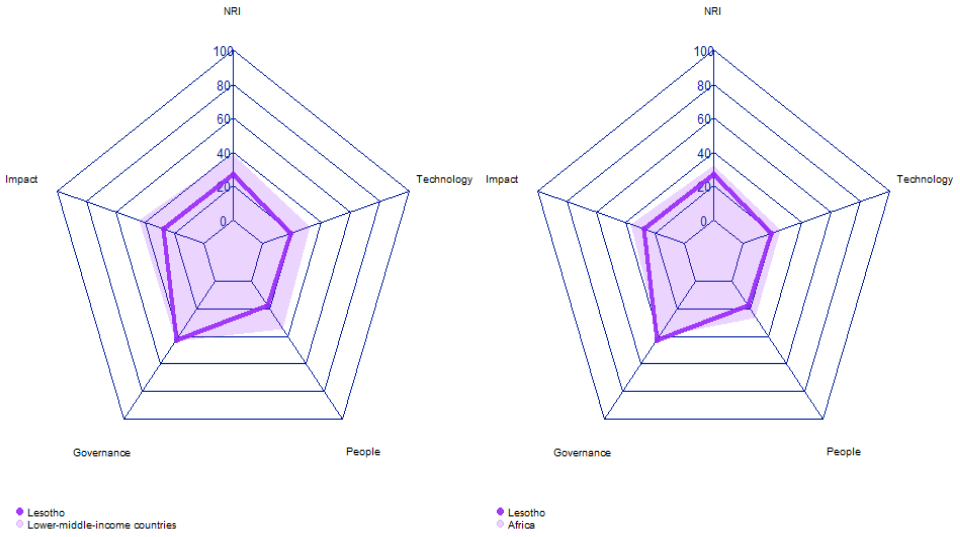


Table 2: Lesotho scores vs. averages of its income group and region, overall and by pillar

Dimension	Lesotho	Lower-middle-income countries	Africa
NRI	26.74	38.41	32.14
Technology	19.38	32.12	25.14
People	17.63	34.38	26.19
Governance	42.57	43.27	40.44
Impact	27.38	43.89	36.77

Strongest and weakest indicators

The indicators where Lesotho performs particularly well include 3.3.4 Gender gap in Internet use, 3.3.5 Rural gap in use of digital payments, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 4.2.4 Healthy life expectancy at birth, and 1.1.5 International Internet bandwidth.

Table 3: Highlight of Strengths and Opportunities for Lesotho

Strongest indicators	Rank	Weakest indicators	Rank
3.3.4 Gender gap in Internet use	1	4.1.3 PCT patent applications	99
3.3.5 Rural gap in use of digital payments	38	1.3.1 Adoption of emerging technologies	127
3.2.5 Privacy protection by law content	53	3.1.2 Cybersecurity	129
3.3.2 Socioeconomic gap in use of digital payments	58	4.1.2 High-tech exports	131
3.1.3 Online access to financial account	60	1.1.5 International Internet bandwidth	132
3.1.4 Internet shopping	68	4.1.4 Domestic market size	133
1.3.2 Investment in emerging technologies	79	4.2.4 Healthy life expectancy at birth	133
4.1.5 Prevalence of gig economy	88		
1.1.4 Population covered by at least a 3G mobile network	93		
4.3.3 SDG 5: Women's economic opportunity	93		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Lesotho

Network Readiness Index Rank: 128 (out of 134) Score: 26.74

Pillar/sub-pillar	Rank	Score
A. Technology pillar	126	19.38
1st sub-pillar: Access	121	39.86
2nd sub-pillar: Content	131	0.41
3rd sub-pillar: Future Technologies	119	17.88
B. People pillar	129	17.63
1st sub-pillar: Individuals	118	21.24
2nd sub-pillar: Businesses	124	22.17
3rd sub-pillar: Governments	132	9.49

Pillar/sub-pillar	Rank	Score
C. Governance pillar	103	42.57
1st sub-pillar: Trust	111	23.11
2nd sub-pillar: Regulation	119	42.90
3rd sub-pillar: Inclusion	67	61.72
D. Impact pillar	132	27.38
1st sub-pillar: Economy	133	8.86
2nd sub-pillar: Quality of Life	131	30.98
3rd sub-pillar: SDG Contribution	124	42.31

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	126	19.38	
1st sub-pillar: Access	121	39.86	
1.1.1 Mobile tariffs	121	19.86	
1.1.2 Handset prices	114	26.85	
1.1.3 FTTH/building Internet subscriptions	110	7.62	
1.1.4 Population covered by at least a 3G mobile network	93	98.31	●
1.1.5 International Internet bandwidth	132	46.67	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	131	0.41	
1.2.1 GitHub commits	121	0.53	
1.2.2 Internet domain registrations	113	0.34	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	119	0.37	
3rd sub-pillar: Future Technologies	119	17.88	
1.3.1 Adoption of emerging technologies	127	0.00	○
1.3.2 Investment in emerging technologies	79	35.75	●
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	103	42.57	
1st sub-pillar: Trust	111	23.11	
3.1.1 Secure Internet servers	110	33.47	
3.1.2 Cybersecurity	129	7.48	○
3.1.3 Online access to financial account	60	30.94	●
3.1.4 Internet shopping	68	20.57	●
2nd sub-pillar: Regulation	119	42.90	
3.2.1 Regulatory quality	112	32.95	
3.2.2 ICT regulatory environment	102	66.82	
3.2.3 Regulation of emerging technologies	109	10.39	
3.2.4 E-commerce legislation	121	33.33	
3.2.5 Privacy protection by law content	53	70.98	●
3rd sub-pillar: Inclusion	67	61.72	
3.3.1 E-Participation	104	29.07	
3.3.2 Socioeconomic gap in use of digital payments	58	80.15	●
3.3.3 Availability of local online content	118	26.44	
3.3.4 Gender gap in Internet use	1	100.00	●

Indicator	Rank	Score	
1.3.4 Computer software spending	NA	NA	
B. People pillar	129	17.63	
1st sub-pillar: Individuals	118	21.24	
2.1.1 Mobile broadband internet traffic within the country	120	0.15	
2.1.2 ICT skills in the education system	105	8.92	
2.1.3 Use of virtual social networks	107	17.99	
2.1.4 Tertiary enrollment	112	5.04	
2.1.5 Adult literacy rate	80	74.09	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	124	22.17	
2.2.1 Firms with website	111	6.24	
2.2.2 GERD financed by business enterprise	94	0.97	
2.2.3 Knowledge intensive employment	99	15.32	
2.2.4 Annual investment in telecommunication services	118	66.15	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	132	9.49	
2.3.1 Government online services	123	27.67	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	125	0.05	
2.3.4 R&D expenditure by governments and higher education	112	0.74	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	38	72.92	●
D. Impact pillar	132	27.38	
1st sub-pillar: Economy	133	8.86	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	131	0.00	○
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	133	9.16	○
4.1.5 Prevalence of gig economy	88	33.43	●
4.1.6 ICT services exports	119	1.71	
2nd sub-pillar: Quality of Life	131	30.98	
4.2.1 Happiness	122	21.56	
4.2.2 Freedom to make life choices	102	56.88	
4.2.3 Income inequality	96	45.48	
4.2.4 Healthy life expectancy at birth	133	0.00	○
3rd sub-pillar: SDG Contribution	124	42.31	
4.3.1 SDG 3: Good Health and Well-Being	114	32.54	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	93	69.03	●
4.3.4 SDG 7: Affordable and Clean Energy	124	41.91	
4.3.5 SDG 11: Sustainable Cities and Communities	127	25.76	

NOTE: ● a strength and ○ a weakness.

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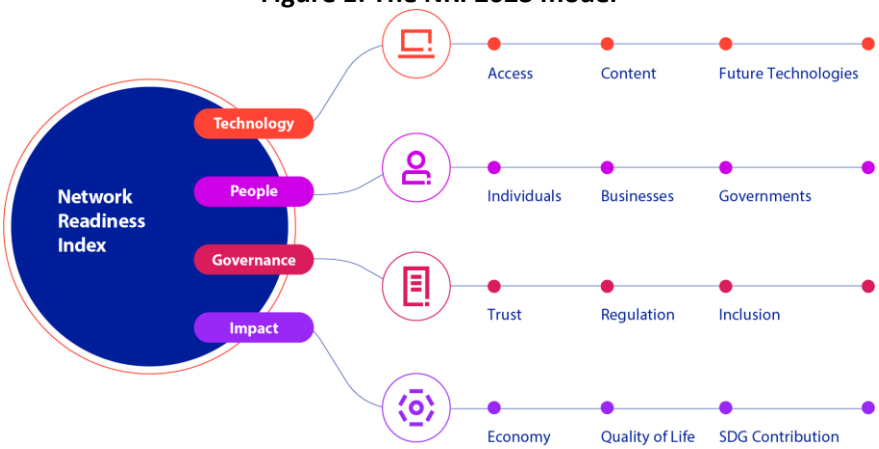
Lithuania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

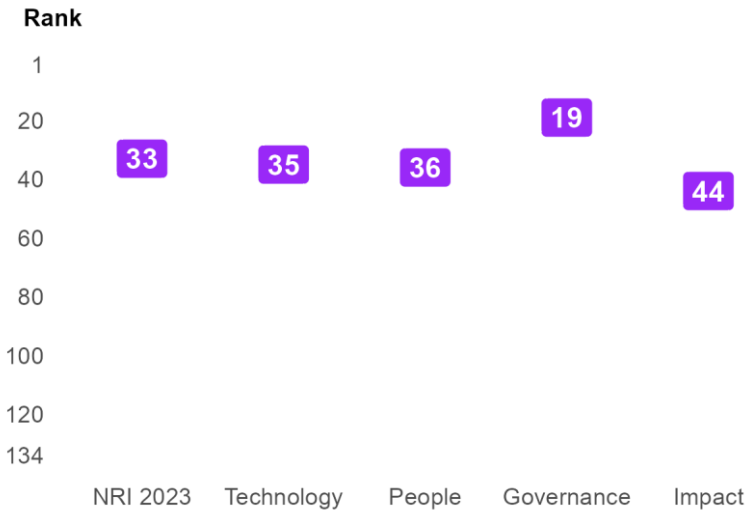
Figure 1: The NRI 2023 model



Global NRI position of Lithuania

Lithuania ranks 33rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Lithuania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Lithuania relate to Regulation, Access and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Economy and Future Technologies sub-pillars.

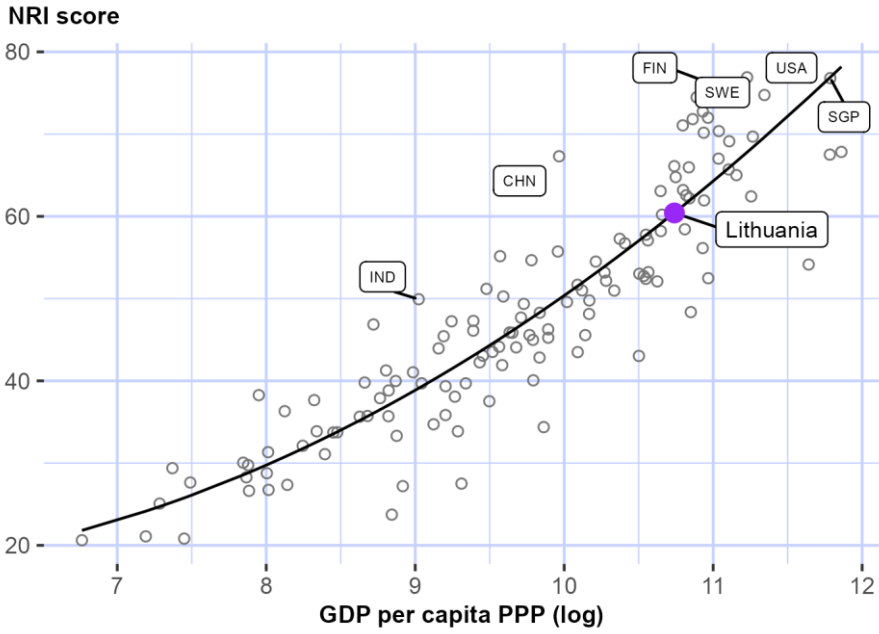
Table 1: Lithuania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	11	Businesses	37
Access	16	Individuals	41
Trust	24	SDG Contribution	42
Inclusion	29	Quality of Life	55
Governments	32	Economy	60
Content	34	Future Technologies	61

NRI score and income

Figure 3 shows the position of Lithuania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Lithuania is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Lithuania belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Lithuania is ranked 32nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Governance. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Trust, Regulation and Inclusion.

Europe

Lithuania is ranked 23rd within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Europe in five of the twelve sub-pillars: Access, Individuals, Trust, Regulation and Inclusion.

Figure 4: Performance of Lithuania against its income group and region, overall and by pillar

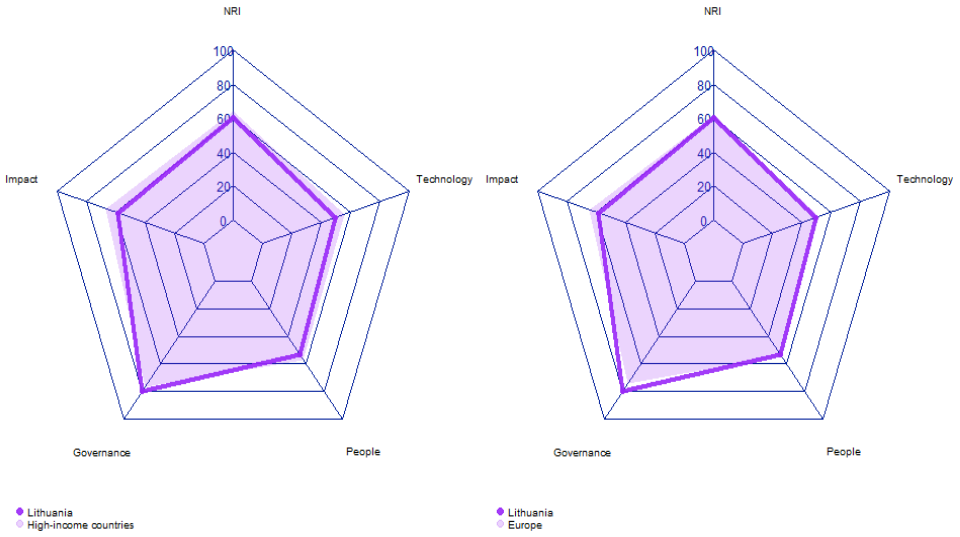


Table 2: Lithuania scores vs. averages of its income group and region, overall and by pillar

Dimension	Lithuania	High-income countries	Europe
NRI	60.41	64.07	61.25
Technology	49.55	55.76	51.90
People	53.42	56.99	54.16
Governance	80.35	76.81	74.33
Impact	58.34	66.73	64.61

Strongest and weakest indicators

The indicators where Lithuania performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.3.4 Computer software spending, and 2.2.4 Annual investment in telecommunication services.

Table 3: Highlight of Strengths and Opportunities for Lithuania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	32
3.2.2 ICT regulatory environment	2	2.2.4 Annual investment in telecommunication services	91
2.1.5 Adult literacy rate	5	1.3.4 Computer software spending	98
1.2.3 Mobile apps development	8	4.2.2 Freedom to make life choices	107
3.3.5 Rural gap in use of digital payments	8		
3.1.2 Cybersecurity	11		
4.2.1 Happiness	11		
3.2.5 Privacy protection by law content	13		
3.3.4 Gender gap in Internet use	14		
3.1.1 Secure Internet servers	15		
3.3.3 Availability of local online content	16		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Lithuania

Network Readiness Index — Rank: 33 (out of 134) — Score: 60.41

Pillar/sub-pillar	Rank	Score
A. Technology pillar	35	49.55
1st sub-pillar: Access	16	76.77
2nd sub-pillar: Content	34	37.35
3rd sub-pillar: Future Technologies	61	34.53
B. People pillar	36	53.42
1st sub-pillar: Individuals	41	52.59
2nd sub-pillar: Businesses	37	56.97
3rd sub-pillar: Governments	32	50.71

Pillar/sub-pillar	Rank	Score
C. Governance pillar	19	80.35
1st sub-pillar: Trust	24	76.18
2nd sub-pillar: Regulation	11	87.70
3rd sub-pillar: Inclusion	29	77.15
D. Impact pillar	44	58.34
1st sub-pillar: Economy	60	30.96
2nd sub-pillar: Quality of Life	55	71.49
3rd sub-pillar: SDG Contribution	42	72.57

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	35	49.55	
1st sub-pillar: Access	16	76.77	
1.1.1 Mobile tariffs	21	83.16	
1.1.2 Handset prices	21	76.76	
1.1.3 FTTH/building Internet subscriptions	69	26.97	
1.1.4 Population covered by at least a 3G mobile network	22	100.00	
1.1.5 International Internet bandwidth	39	76.10	
1.1.6 Internet access in schools	34	97.60	
2nd sub-pillar: Content	34	37.35	
1.2.1 GitHub commits	29	36.74	
1.2.2 Internet domain registrations	27	27.08	
1.2.3 Mobile apps development	8	82.70	•
1.2.4 AI scientific publications	78	2.86	
3rd sub-pillar: Future Technologies	61	34.53	
1.3.1 Adoption of emerging technologies	31	65.18	
1.3.2 Investment in emerging technologies	29	61.75	

Indicator	Rank	Score	
C. Governance pillar	19	80.35	
1st sub-pillar: Trust	24	76.18	
3.1.1 Secure Internet servers	15	85.86	•
3.1.2 Cybersecurity	11	97.89	•
3.1.3 Online access to financial account	20	60.65	
3.1.4 Internet shopping	33	60.32	
2nd sub-pillar: Regulation	11	87.70	
3.2.1 Regulatory quality	23	78.45	
3.2.2 ICT regulatory environment	2	99.41	•
3.2.3 Regulation of emerging technologies	27	71.95	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	13	88.72	•
3rd sub-pillar: Inclusion	29	77.15	
3.3.1 E-Participation	67	53.49	
3.3.2 Socioeconomic gap in use of digital payments	33	91.15	
3.3.3 Availability of local online content	16	87.74	•

Indicator	Rank	Score	
1.3.3 Robot density	36	5.46	
1.3.4 Computer software spending	98	5.74	○
B. People pillar	36	53.42	
1st sub-pillar: Individuals	41	52.59	
2.1.1 Mobile broadband internet traffic within the country	50	13.36	
2.1.2 ICT skills in the education system	25	71.21	
2.1.3 Use of virtual social networks	39	73.22	
2.1.4 Tertiary enrollment	32	45.94	
2.1.5 Adult literacy rate	5	99.77	●
2.1.6 AI talent concentration	32	12.02	○
2nd sub-pillar: Businesses	37	56.97	
2.2.1 Firms with website	23	78.99	
2.2.2 GERD financed by business enterprise	50	46.16	
2.2.3 Knowledge intensive employment	19	71.42	
2.2.4 Annual investment in telecommunication services	91	74.39	○
2.2.5 GERD performed by business enterprise	37	13.91	
3rd sub-pillar: Governments	32	50.71	
2.3.1 Government online services	28	81.73	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	38	50.60	
2.3.4 R&D expenditure by governments and higher education	36	19.79	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	14	74.20	●
3.3.5 Rural gap in use of digital payments	8	79.18	●
D. Impact pillar	44	58.34	
1st sub-pillar: Economy	60	30.96	
4.1.1 High-tech and medium-high-tech manufacturing	51	29.59	
4.1.2 High-tech exports	42	20.63	
4.1.3 PCT patent applications	37	11.04	
4.1.4 Domestic market size	81	46.97	
4.1.5 Prevalence of gig economy	44	53.78	
4.1.6 ICT services exports	45	23.75	
2nd sub-pillar: Quality of Life	55	71.49	
4.2.1 Happiness	11	87.14	●
4.2.2 Freedom to make life choices	107	55.77	○
4.2.3 Income inequality	56	67.84	
4.2.4 Healthy life expectancy at birth	57	75.19	
3rd sub-pillar: SDG Contribution	42	72.57	
4.3.1 SDG 3: Good Health and Well-Being	75	67.57	
4.3.2 SDG 4: Quality Education	32	59.45	
4.3.3 SDG 5: Women's economic opportunity	29	91.15	
4.3.4 SDG 7: Affordable and Clean Energy	42	76.81	
4.3.5 SDG 11: Sustainable Cities and Communities	63	67.89	

NOTE: ● a strength and ○ a weakness.

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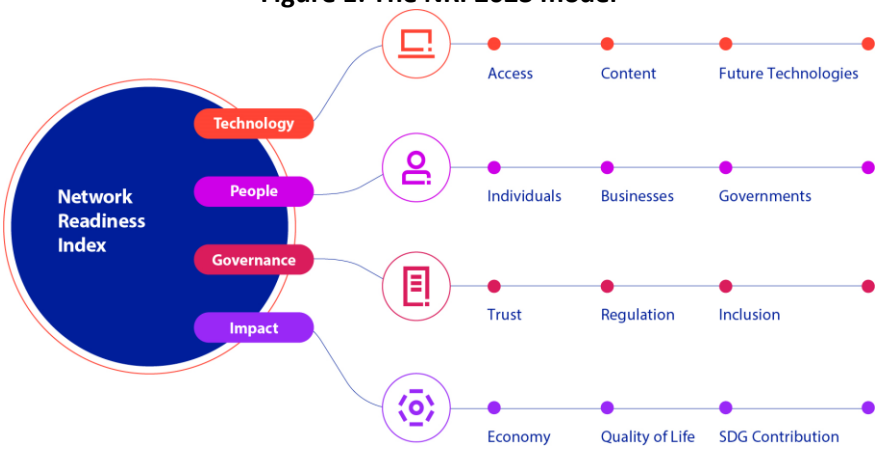
Luxembourg

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

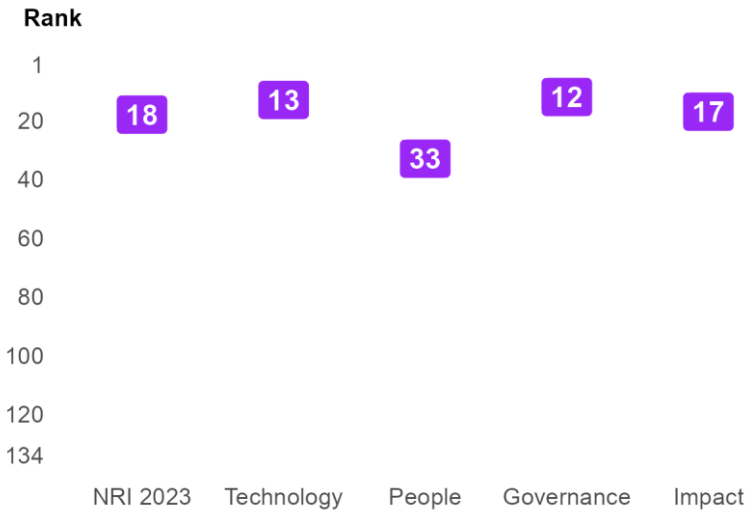
Figure 1: The NRI 2023 model



Global NRI position of Luxembourg

Luxembourg ranks 18th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Luxembourg global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Luxembourg relate to Regulation, SDG Contribution and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Access and Individuals sub-pillars.

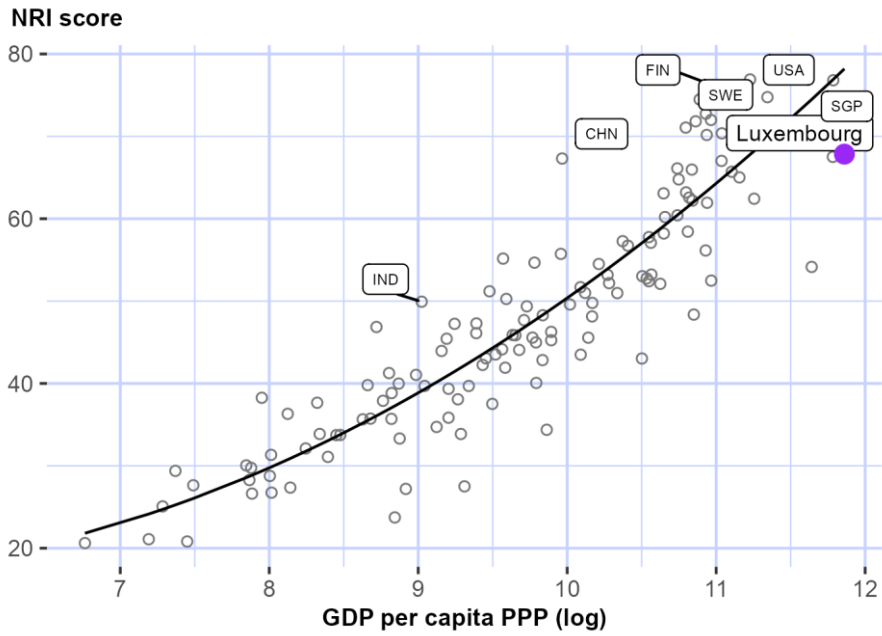
Table 1: Luxembourg rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	1	Inclusion	18
SDG Contribution	7	Businesses	22
Future Technologies	9	Trust	23
Quality of Life	11	Economy	31
Content	14	Access	38
Governments	18	Individuals	109

NRI score and income

Figure 3 shows the position of Luxembourg in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Luxembourg is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Luxembourg belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Luxembourg is ranked 18th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Luxembourg is ranked 12th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Luxembourg against its income group and region, overall and by pillar

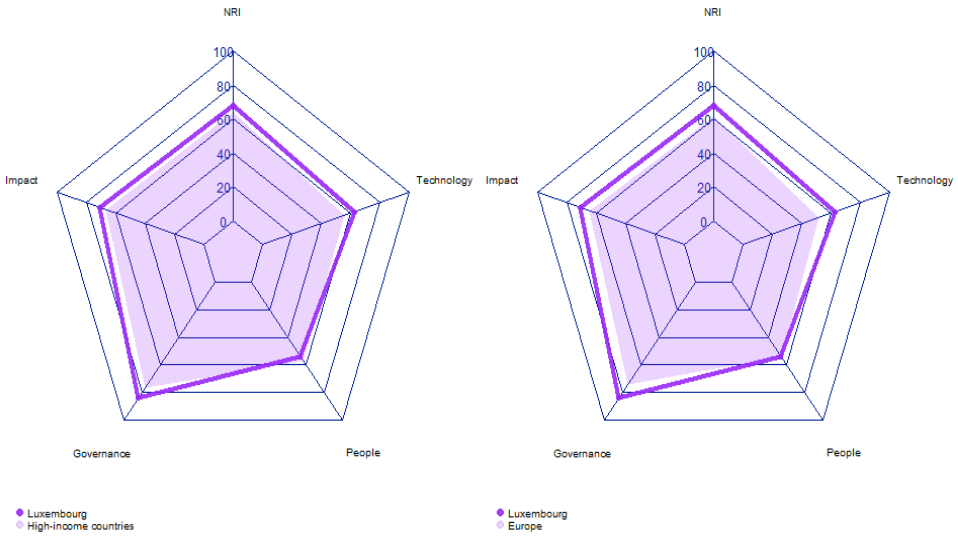


Table 2: Luxembourg scores vs. averages of its income group and region, overall and by pillar

Dimension	Luxembourg	High-income countries	Europe
NRI	67.84	64.07	61.25
Technology	62.47	55.76	51.90
People	53.87	56.99	54.16
Governance	84.23	76.81	74.33
Impact	70.79	66.73	64.61

Strongest and weakest indicators

The indicators where Luxembourg performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 2.2.3 Knowledge intensive employment, and 3.2.3 Regulation of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 1.2.4 AI scientific publications, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Highlight of Strengths and Opportunities for Luxembourg

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.4 Annual investment in telecommunication services	92
2.2.3 Knowledge intensive employment	1	2.1.4 Tertiary enrollment	100
3.2.3 Regulation of emerging technologies	1	2.1.1 Mobile broadband internet traffic within the country	108
3.2.4 E-commerce legislation	1	1.2.4 AI scientific publications	111
4.3.3 SDG 5: Women's economic opportunity	1	1.1.3 FTTH/building Internet subscriptions	113
3.2.1 Regulatory quality	2		
1.1.1 Mobile tariffs	3		
2.3.3 Government promotion of investment in emerging technologies	3		
3.2.5 Privacy protection by law content	4		
1.2.2 Internet domain registrations	5		
1.3.1 Adoption of emerging technologies	7		
4.2.1 Happiness	8		
4.3.1 SDG 3: Good Health and Well-Being	8		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Luxembourg

Network Readiness Index Rank: 18 (out of 134) Score: 67.84

Pillar/sub-pillar	Rank	Score
A. Technology pillar	13	62.47
1st sub-pillar: Access	38	72.33
2nd sub-pillar: Content	14	52.27
3rd sub-pillar: Future Technologies	9	62.80
B. People pillar	33	53.87
1st sub-pillar: Individuals	109	30.30
2nd sub-pillar: Businesses	22	66.44
3rd sub-pillar: Governments	18	64.87

Pillar/sub-pillar	Rank	Score
C. Governance pillar	12	84.23
1st sub-pillar: Trust	23	77.03
2nd sub-pillar: Regulation	1	95.03
3rd sub-pillar: Inclusion	18	80.65
D. Impact pillar	17	70.79
1st sub-pillar: Economy	31	39.40
2nd sub-pillar: Quality of Life	11	86.63
3rd sub-pillar: SDG Contribution	7	86.34

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	13	62.47	
1st sub-pillar: Access	38	72.33	
1.1.1 Mobile tariffs	3	98.99	●
1.1.2 Handset prices	23	74.83	
1.1.3 FTTH/building Internet subscriptions	113	6.67	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	19	81.15	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	14	52.27	
1.2.1 GitHub commits	24	50.42	
1.2.2 Internet domain registrations	5	83.98	●
1.2.3 Mobile apps development	30	74.11	
1.2.4 AI scientific publications	111	0.57	○
3rd sub-pillar: Future Technologies	9	62.80	
1.3.1 Adoption of emerging technologies	7	92.18	●
1.3.2 Investment in emerging technologies	10	79.50	

Indicator	Rank	Score	
C. Governance pillar	12	84.23	
1st sub-pillar: Trust	23	77.03	
3.1.1 Secure Internet servers	16	85.48	
3.1.2 Cybersecurity	18	97.36	
3.1.3 Online access to financial account	17	66.56	
3.1.4 Internet shopping	35	58.71	
2nd sub-pillar: Regulation	1	95.03	
3.2.1 Regulatory quality	2	92.87	●
3.2.2 ICT regulatory environment	38	88.82	
3.2.3 Regulation of emerging technologies	1	100.00	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	4	93.44	●
3rd sub-pillar: Inclusion	18	80.65	
3.3.1 E-Participation	25	74.42	
3.3.2 Socioeconomic gap in use of digital payments	15	96.82	
3.3.3 Availability of local online content	17	86.54	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	78	16.73	
B. People pillar	33	53.87	
1st sub-pillar: Individuals	109	30.30	
2.1.1 Mobile broadband internet traffic within the country	108	1.31	○
2.1.2 ICT skills in the education system	40	59.34	
2.1.3 Use of virtual social networks	76	58.06	
2.1.4 Tertiary enrollment	100	11.12	○
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	23	21.67	
2nd sub-pillar: Businesses	22	66.44	
2.2.1 Firms with website	17	82.33	
2.2.2 GERD financed by business enterprise	25	63.43	
2.2.3 Knowledge intensive employment	1	100.00	●
2.2.4 Annual investment in telecommunication services	92	74.30	○
2.2.5 GERD performed by business enterprise	40	12.14	
3rd sub-pillar: Governments	18	64.87	
2.3.1 Government online services	29	81.42	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	3	94.93	●
2.3.4 R&D expenditure by governments and higher education	39	18.26	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	47	69.21	
3.3.5 Rural gap in use of digital payments	17	76.25	
D. Impact pillar	17	70.79	
1st sub-pillar: Economy	31	39.40	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	70	10.77	
4.1.3 PCT patent applications	8	65.38	
4.1.4 Domestic market size	90	43.34	
4.1.5 Prevalence of gig economy	50	50.29	
4.1.6 ICT services exports	36	27.24	
2nd sub-pillar: Quality of Life	11	86.63	
4.2.1 Happiness	8	90.68	●
4.2.2 Freedom to make life choices	17	89.97	
4.2.3 Income inequality	40	74.37	
4.2.4 Healthy life expectancy at birth	12	91.48	
3rd sub-pillar: SDG Contribution	7	86.34	
4.3.1 SDG 3: Good Health and Well-Being	8	95.29	●
4.3.2 SDG 4: Quality Education	35	58.23	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	13	83.02	
4.3.5 SDG 11: Sustainable Cities and Communities	11	95.15	

NOTE: ● a strength and ○ a weakness.

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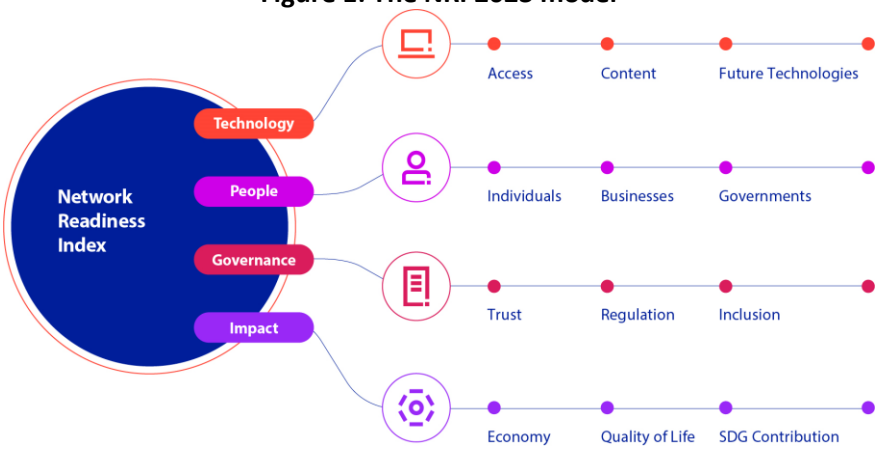
Madagascar

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

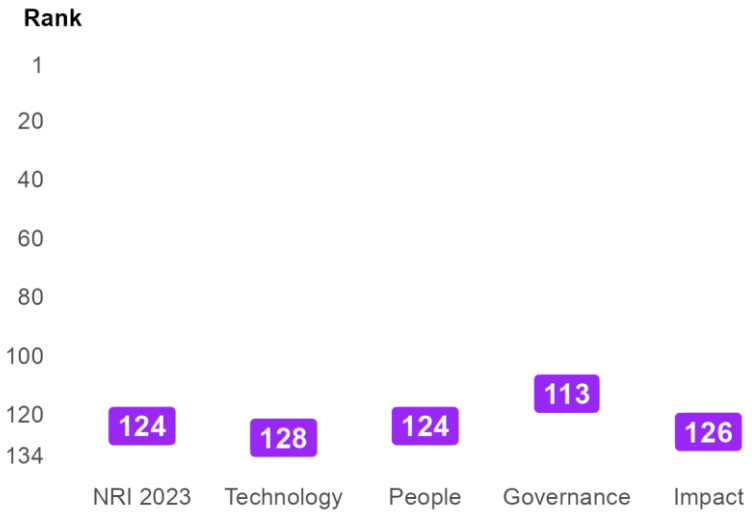
Figure 1: The NRI 2023 model



Global NRI position of Madagascar

Madagascar ranks 124th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Madagascar global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Madagascar relate to Regulation, Economy and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Content and SDG Contribution sub-pillars.

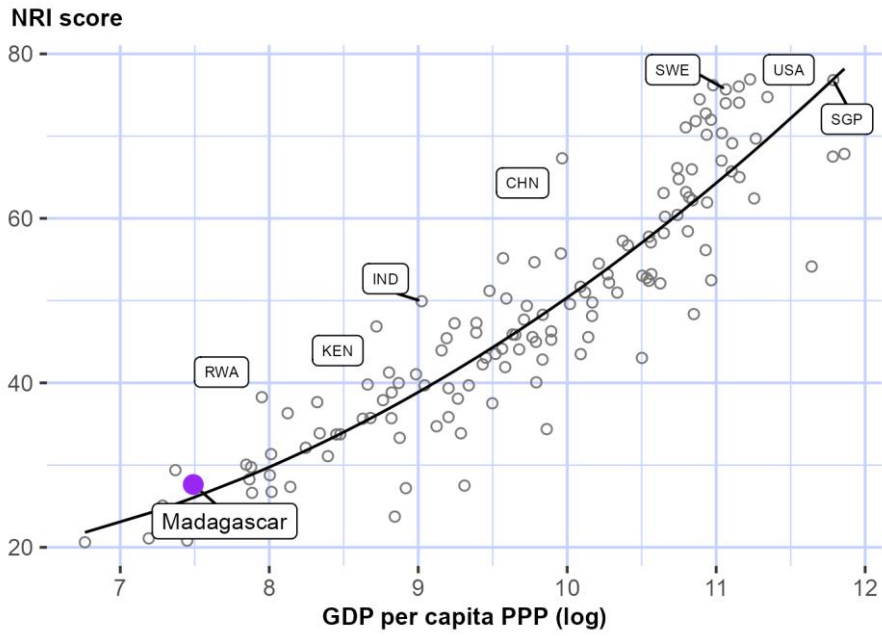
Table 1: Madagascar rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	61	Inclusion	124
Economy	86	Trust	125
Businesses	106	Quality of Life	125
Future Technologies	113	Access	128
Individuals	122	Content	130
Governments	122	SDG Contribution	132

NRI score and income

Figure 3 shows the position of Madagascar in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Madagascar is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Madagascar belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Madagascar is ranked 6th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: NRI, People and Governance. At the sub-pillar level, it outperforms low-income countries in five of the twelve sub-pillars: Future Technologies, Individuals, Businesses, Regulation and Economy.

Africa

Madagascar is ranked 22nd within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in two of the twelve sub-pillars: Regulation and Economy.

Figure 4: Performance of Madagascar against its income group and region, overall and by pillar

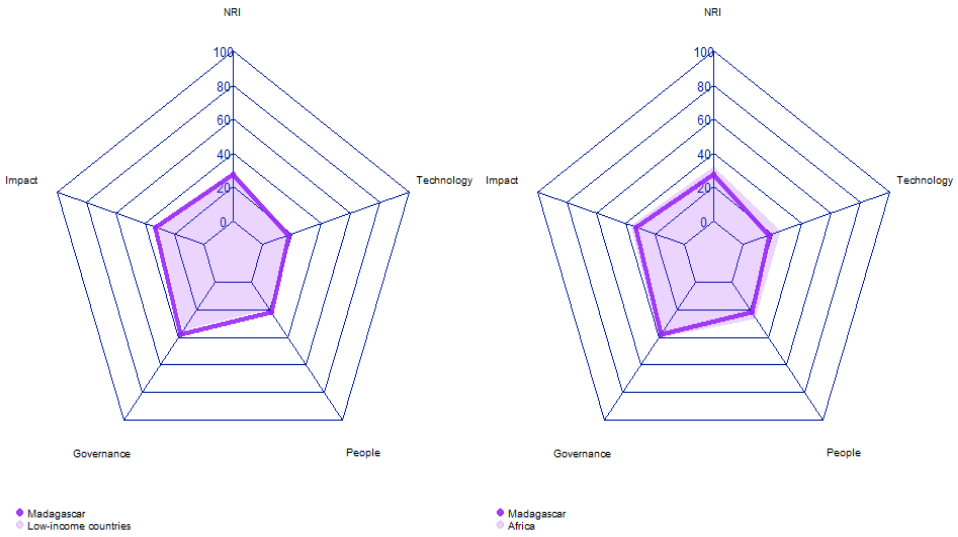


Table 2: Madagascar scores vs. averages of its income group and region, overall and by pillar

Dimension	Madagascar	Low-income countries	Africa
NRI	27.64	27.19	32.14
Technology	17.62	19.75	25.14
People	22.00	19.57	26.19
Governance	38.19	34.61	40.44
Impact	32.75	34.82	36.77

Strongest and weakest indicators

The indicators where Madagascar performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 3.2.5 Privacy protection by law content (Table 3). By contrast, the economy's weakest indicators include 4.3.1 SDG 3: Good Health and Well-Being, 1.1.1 Mobile tariffs, 3.1.1 Secure Internet servers, and 3.3.2 Socioeconomic gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Madagascar

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.3.4 R&D expenditure by governments and higher education	114
4.1.6 ICT services exports	35	1.2.3 Mobile apps development	122
3.2.5 Privacy protection by law content	40	4.2.2 Freedom to make life choices	126
4.1.5 Prevalence of gig economy	59	3.1.1 Secure Internet servers	128
1.1.3 FTTH/building Internet subscriptions	75	3.3.2 Socioeconomic gap in use of digital payments	128
3.1.3 Online access to financial account	82	1.1.1 Mobile tariffs	129
4.1.3 PCT patent applications	87	4.3.1 SDG 3: Good Health and Well-Being	132
1.3.2 Investment in emerging technologies	88		
4.2.3 Income inequality	91		
1.2.4 AI scientific publications	95		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Madagascar

Network Readiness Index Rank: 124 (out of 134) Score: 27.64

Pillar/sub-pillar	Rank	Score
A. Technology pillar	128	17.62
1st sub-pillar: Access	128	32.81
2nd sub-pillar: Content	130	0.59
3rd sub-pillar: Future Technologies	113	19.46
B. People pillar	124	22.00
1st sub-pillar: Individuals	122	19.98
2nd sub-pillar: Businesses	106	30.90
3rd sub-pillar: Governments	122	15.11

Pillar/sub-pillar	Rank	Score
C. Governance pillar	113	38.19
1st sub-pillar: Trust	125	16.01
2nd sub-pillar: Regulation	61	66.97
3rd sub-pillar: Inclusion	124	31.59
D. Impact pillar	126	32.75
1st sub-pillar: Economy	86	22.44
2nd sub-pillar: Quality of Life	125	37.71
3rd sub-pillar: SDG Contribution	132	38.10

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	128	17.62	
1st sub-pillar: Access	128	32.81	
1.1.1 Mobile tariffs	129	8.03	○
1.1.2 Handset prices	124	18.18	
1.1.3 FTTH/building Internet subscriptions	75	25.50	●
1.1.4 Population covered by at least a 3G mobile network	127	85.34	
1.1.5 International Internet bandwidth	117	59.70	
1.1.6 Internet access in schools	83	0.12	
2nd sub-pillar: Content	130	0.59	
1.2.1 GitHub commits	118	0.69	
1.2.2 Internet domain registrations	127	0.11	
1.2.3 Mobile apps development	122	0.00	○
1.2.4 AI scientific publications	95	1.56	●
3rd sub-pillar: Future Technologies	113	19.46	
1.3.1 Adoption of emerging technologies	116	22.75	
1.3.2 Investment in emerging technologies	88	33.75	●
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	113	38.19	
1st sub-pillar: Trust	125	16.01	
3.1.1 Secure Internet servers	128	18.27	○
3.1.2 Cybersecurity	115	21.98	
3.1.3 Online access to financial account	82	18.78	●
3.1.4 Internet shopping	108	5.02	
2nd sub-pillar: Regulation	61	66.97	
3.2.1 Regulatory quality	115	31.08	
3.2.2 ICT regulatory environment	115	61.76	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	40	75.05	●
3rd sub-pillar: Inclusion	124	31.59	
3.3.1 E-Participation	106	26.75	
3.3.2 Socioeconomic gap in use of digital payments	128	26.77	○
3.3.3 Availability of local online content	109	34.13	
3.3.4 Gender gap in Internet use	NA	NA	

Indicator	Rank	Score	
1.3.4 Computer software spending	115	1.87	
B. People pillar	124	22.00	
1st sub-pillar: Individuals	122	19.98	
2.1.1 Mobile broadband internet traffic within the country	100	2.13	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	121	6.94	
2.1.4 Tertiary enrollment	125	1.89	
2.1.5 Adult literacy rate	85	68.94	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	106	30.90	
2.2.1 Firms with website	100	18.25	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	124	1.49	
2.2.4 Annual investment in telecommunication services	98	72.96	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	122	15.11	
2.3.1 Government online services	122	28.33	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	112	16.96	
2.3.4 R&D expenditure by governments and higher education	114	0.05	○

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	104	38.73	
D. Impact pillar	126	32.75	
1st sub-pillar: Economy	86	22.44	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	117	1.17	
4.1.3 PCT patent applications	87	0.80	●
4.1.4 Domestic market size	106	37.55	
4.1.5 Prevalence of gig economy	59	44.19	●
4.1.6 ICT services exports	35	28.52	●
2nd sub-pillar: Quality of Life	125	37.71	
4.2.1 Happiness	116	31.00	
4.2.2 Freedom to make life choices	126	24.79	○
4.2.3 Income inequality	91	51.26	●
4.2.4 Healthy life expectancy at birth	111	43.78	
3rd sub-pillar: SDG Contribution	132	38.10	
4.3.1 SDG 3: Good Health and Well-Being	132	10.58	○
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	112	56.64	
4.3.4 SDG 7: Affordable and Clean Energy	122	43.50	
4.3.5 SDG 11: Sustainable Cities and Communities	109	41.67	

NOTE: ● a strength and ○ a weakness.

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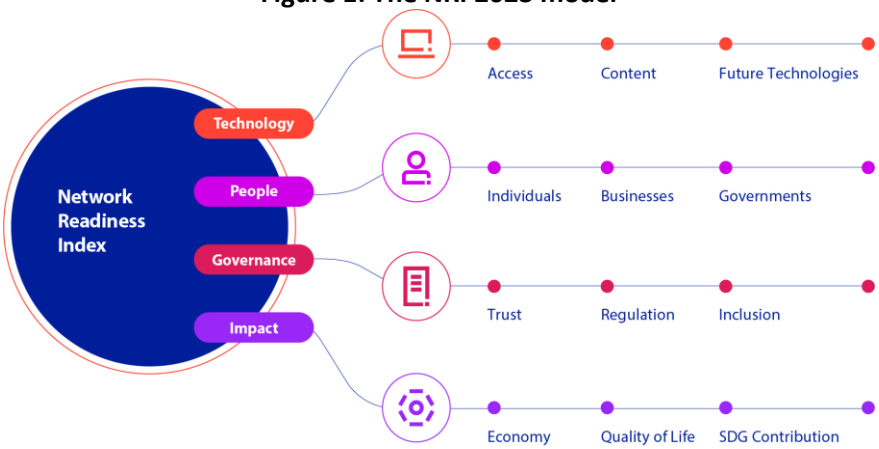
Malawi

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

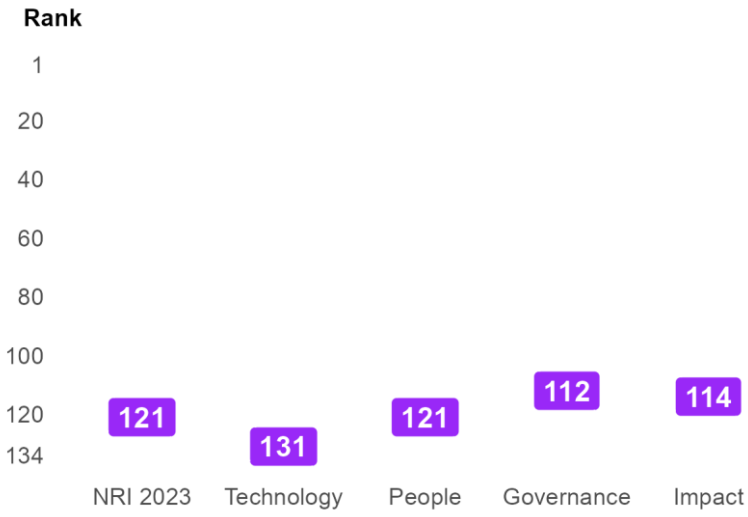
Figure 1: The NRI 2023 model



Global NRI position of Malawi

Malawi ranks 121st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Malawi global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malawi relate to Businesses, SDG Contribution and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Access and Future Technologies sub-pillars.

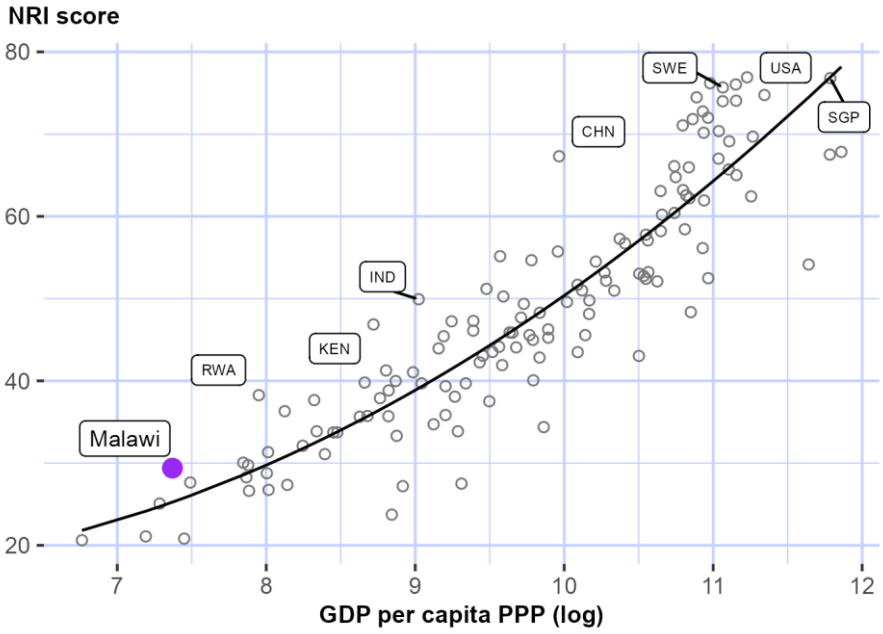
Table 1: Malawi rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	87	Individuals	119
SDG Contribution	97	Governments	120
Inclusion	111	Economy	122
Trust	112	Content	125
Regulation	112	Access	126
Quality of Life	116	Future Technologies	130

NRI score and income

Figure 3 shows the position of Malawi in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malawi is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Malawi belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Malawi is ranked 4th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms low-income countries in seven of the twelve sub-pillars: Access, Individuals, Businesses, Trust, Inclusion, Quality of Life and SDG Contribution.

Africa

Malawi is ranked 19th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Africa in four of the twelve sub-pillars: Businesses, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Malawi against its income group and region, overall and by pillar

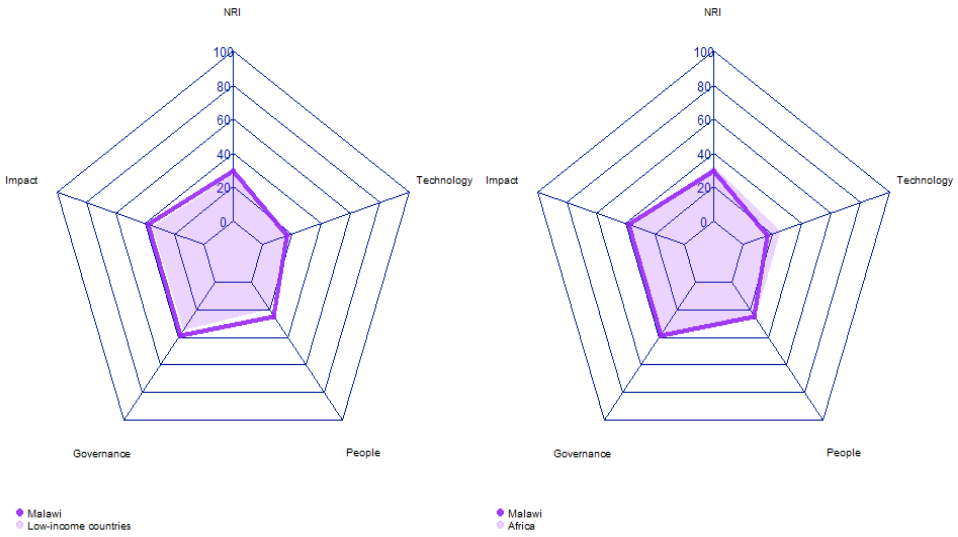


Table 2: Malawi scores vs. averages of its income group and region, overall and by pillar

Dimension	Malawi	Low-income countries	Africa
NRI	29.39	27.19	32.14
Technology	16.42	19.75	25.14
People	24.86	19.57	26.19
Governance	38.35	34.61	40.44
Impact	37.92	34.82	36.77

Strongest and weakest indicators

The indicators where Malawi performs particularly well include 4.1.6 ICT services exports, 3.2.2 ICT regulatory environment, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 2.1.4 Tertiary enrollment, 1.1.2 Handset prices, and 3.3.3 Availability of local online content.

Table 3: Highlight of Strengths and Opportunities for Malawi

Strongest indicators	Rank	Weakest indicators	Rank
4.1.6 ICT services exports	40	4.1.3 PCT patent applications	99
3.2.2 ICT regulatory environment	58	1.3.1 Adoption of emerging technologies	124
3.1.3 Online access to financial account	59	4.1.5 Prevalence of gig economy	125
2.1.2 ICT skills in the education system	69	1.1.1 Mobile tariffs	128
4.2.3 Income inequality	69	1.1.2 Handset prices	129
3.3.5 Rural gap in use of digital payments	72	3.3.3 Availability of local online content	129
2.2.1 Firms with website	74	2.1.4 Tertiary enrollment	130
1.2.4 AI scientific publications	77	2.1.3 Use of virtual social networks	133
3.2.5 Privacy protection by law content	77		
4.3.3 SDG 5: Women's economic opportunity	83		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Malawi

Network Readiness Index — Rank: 121 (out of 134) — Score: 29.39

Pillar/sub-pillar	Rank	Score
A. Technology pillar	131	16.42
1st sub-pillar: Access	126	36.20
2nd sub-pillar: Content	125	1.15
3rd sub-pillar: Future Technologies	130	11.93
B. People pillar	121	24.86
1st sub-pillar: Individuals	119	21.11
2nd sub-pillar: Businesses	87	37.26
3rd sub-pillar: Governments	120	16.21

Pillar/sub-pillar	Rank	Score
C. Governance pillar	112	38.35
1st sub-pillar: Trust	112	22.59
2nd sub-pillar: Regulation	112	49.91
3rd sub-pillar: Inclusion	111	42.53
D. Impact pillar	114	37.92
1st sub-pillar: Economy	122	13.42
2nd sub-pillar: Quality of Life	116	46.14
3rd sub-pillar: SDG Contribution	97	54.18

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	131	16.42	
1st sub-pillar: Access	126	36.20	
1.1.1 Mobile tariffs	128	9.48	○
1.1.2 Handset prices	129	13.05	○
1.1.3 FTTH/building Internet subscriptions	120	4.47	
1.1.4 Population covered by at least a 3G mobile network	113	94.86	
1.1.5 International Internet bandwidth	120	59.11	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	125	1.15	
1.2.1 GitHub commits	124	0.38	
1.2.2 Internet domain registrations	126	0.11	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	77	2.95	●
3rd sub-pillar: Future Technologies	130	11.93	
1.3.1 Adoption of emerging technologies	124	13.46	○
1.3.2 Investment in emerging technologies	118	19.75	

Indicator	Rank	Score	
C. Governance pillar	112	38.35	
1st sub-pillar: Trust	112	22.59	
3.1.1 Secure Internet servers	125	22.35	
3.1.2 Cybersecurity	101	35.72	
3.1.3 Online access to financial account	59	31.01	●
3.1.4 Internet shopping	124	1.29	
2nd sub-pillar: Regulation	112	49.91	
3.2.1 Regulatory quality	114	31.85	
3.2.2 ICT regulatory environment	58	84.71	●
3.2.3 Regulation of emerging technologies	114	5.19	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	77	61.16	●
3rd sub-pillar: Inclusion	111	42.53	
3.3.1 E-Participation	90	36.05	
3.3.2 Socioeconomic gap in use of digital payments	91	56.69	
3.3.3 Availability of local online content	129	16.59	○

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	111	2.58	
B. People pillar		121	24.86	
1st sub-pillar: Individuals		119	21.11	
2.1.1	Mobile broadband internet traffic within the country	97	2.21	
2.1.2	ICT skills in the education system	69	46.84	●
2.1.3	Use of virtual social networks	133	1.08	○
2.1.4	Tertiary enrollment	130	0.05	○
2.1.5	Adult literacy rate	94	55.37	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		87	37.26	
2.2.1	Firms with website	74	40.90	●
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	123	1.57	
2.2.4	Annual investment in telecommunication services	116	69.31	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		120	16.21	
2.3.1	Government online services	120	29.34	
2.3.2	Publication and use of open data	91	8.82	
2.3.3	Government promotion of investment in emerging tech	116	10.46	
2.3.4	R&D expenditure by governments and higher education	NA	NA	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	72	60.81	●
D. Impact pillar		114	37.92	
1st sub-pillar: Economy		122	13.42	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	87	4.93	
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	121	33.38	
4.1.5	Prevalence of gig economy	125	3.49	○
4.1.6	ICT services exports	40	25.32	●
2nd sub-pillar: Quality of Life		116	46.14	
4.2.1	Happiness	125	18.66	
4.2.2	Freedom to make life choices	92	61.42	
4.2.3	Income inequality	69	61.56	●
4.2.4	Healthy life expectancy at birth	112	42.93	
3rd sub-pillar: SDG Contribution		97	54.18	
4.3.1	SDG 3: Good Health and Well-Being	113	32.83	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	83	71.68	●
4.3.4	SDG 7: Affordable and Clean Energy	90	66.26	
4.3.5	SDG 11: Sustainable Cities and Communities	100	45.96	

NOTE: ● a strength and ○ a weakness.

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Malaysia

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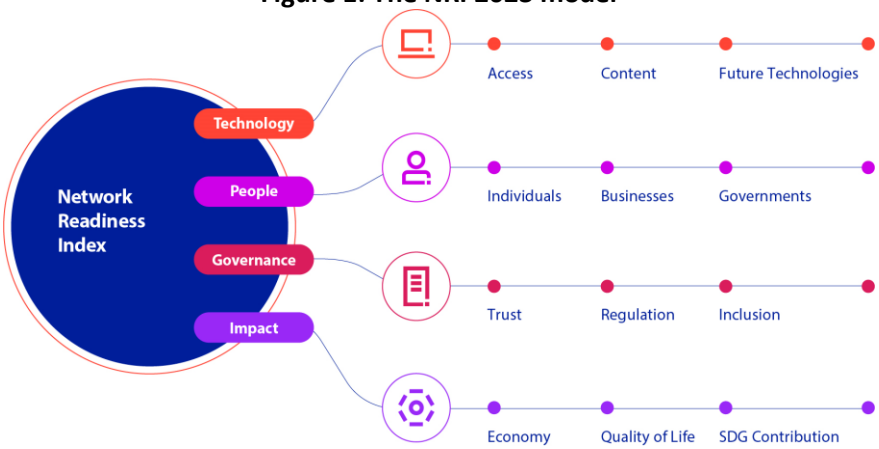
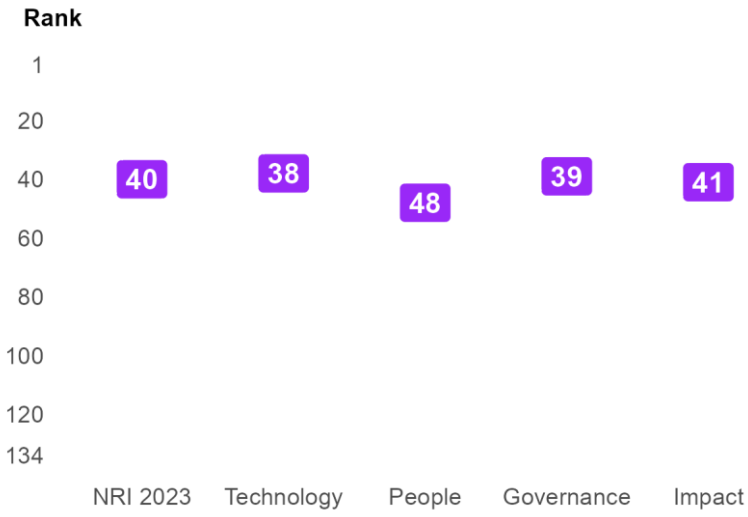
Figure 1: The NRI 2023 model



Global NRI position of Malaysia

Malaysia ranks 40th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Malaysia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malaysia relate to Economy, Access and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Businesses and SDG Contribution sub-pillars.

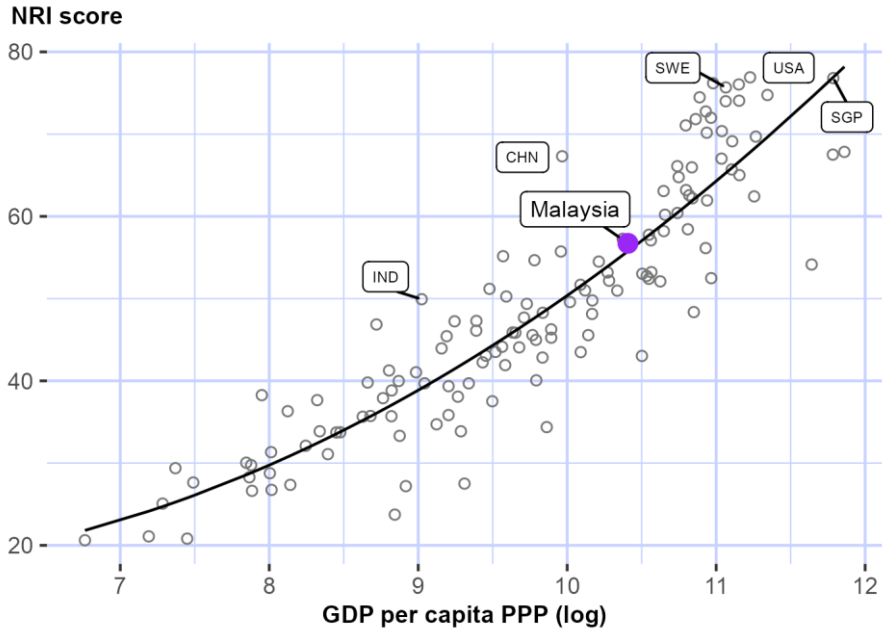
Table 1: Malaysia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	15	Regulation	52
Access	25	Individuals	56
Future Technologies	30	Content	59
Governments	37	Quality of Life	60
Trust	38	Businesses	62
Inclusion	46	SDG Contribution	89

NRI score and income

Figure 3 shows the position of Malaysia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malaysia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Malaysia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

Malaysia is ranked 3rd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Malaysia is ranked 8th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, Governance and Impact. With regard to sub-pillars, it outperforms the average in Asia & Pacific in eight of the twelve sub-pillars: Access, Future Technologies, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Malaysia against its income group and region, overall and by pillar

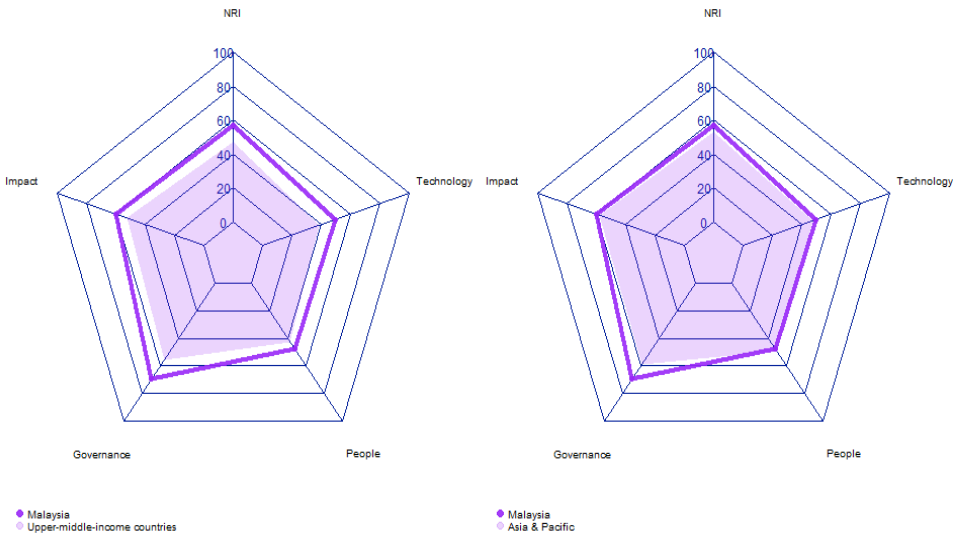


Table 2: Malaysia scores vs. averages of its income group and region, overall and by pillar

Dimension	Malaysia	Upper-middle-income countries	Asia & Pacific
NRI	56.72	47.35	53.28
Technology	49.31	38.48	47.34
People	47.97	42.59	48.95
Governance	69.80	55.90	59.22
Impact	59.81	52.43	57.62

Strongest and weakest indicators

The indicators where Malaysia performs particularly well include 3.2.4 E-commerce legislation, 4.1.2 High-tech exports, and 4.1.5 Prevalence of gig economy (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 3.2.5 Privacy protection by law content, and 4.2.3 Income inequality.

Table 3: Highlight of Strengths and Opportunities for Malaysia

Strongest indicators	Rank
3.2.4 E-commerce legislation	1
4.1.2 High-tech exports	4
4.1.5 Prevalence of gig economy	6
3.1.2 Cybersecurity	8
2.1.1 Mobile broadband internet traffic within the country	9
2.3.3 Government promotion of investment in emerging technologies	11
1.1.5 International Internet bandwidth	12
1.3.2 Investment in emerging technologies	12
4.1.1 High-tech and medium-high-tech manufacturing	17
1.1.3 FTTH/building Internet subscriptions	22
1.2.4 AI scientific publications	23

Weakest indicators	Rank
1.2.3 Mobile apps development	78
4.2.3 Income inequality	86
3.2.5 Privacy protection by law content	112
4.3.3 SDG 5: Women's economic opportunity	126

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Malaysia

Network Readiness Index Rank: 40 (out of 134) Score: 56.72

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	38	49.31	C. Governance pillar	39	69.80
1st sub-pillar: Access	25	75.61	1st sub-pillar: Trust	38	67.57
2nd sub-pillar: Content	59	24.88	2nd sub-pillar: Regulation	52	70.55
3rd sub-pillar: Future Technologies	30	47.45	3rd sub-pillar: Inclusion	46	71.28
B. People pillar	48	47.97	D. Impact pillar	41	59.81
1st sub-pillar: Individuals	56	49.37	1st sub-pillar: Economy	15	53.67
2nd sub-pillar: Businesses	62	45.76	2nd sub-pillar: Quality of Life	60	69.60
3rd sub-pillar: Governments	37	48.78	3rd sub-pillar: SDG Contribution	89	56.18

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	38	49.31		**C. Governance pillar**	39	69.80	
1st sub-pillar: Access	25	75.61		*1st sub-pillar: Trust*	38	67.57	
1.1.1 Mobile tariffs	72	59.83		3.1.1 Secure Internet servers	45	70.99	
1.1.2 Handset prices	42	63.03		3.1.2 Cybersecurity	8	98.03	●
1.1.3 FTTH/building Internet subscriptions	22	46.74	●	3.1.3 Online access to financial account	41	43.40	
1.1.4 Population covered by at least a 3G mobile network	84	98.97		3.1.4 Internet shopping	39	57.86	
1.1.5 International Internet bandwidth	12	85.50	●	*2nd sub-pillar: Regulation*	52	70.55	
1.1.6 Internet access in schools	29	99.60		3.2.1 Regulatory quality	42	65.92	
2nd sub-pillar: Content	59	24.88		3.2.2 ICT regulatory environment	70	83.53	
1.2.1 GitHub commits	61	8.12		3.2.3 Regulation of emerging technologies	40	60.00	
1.2.2 Internet domain registrations	56	5.58		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	78	62.86	○	3.2.5 Privacy protection by law content	112	43.30	○
1.2.4 AI scientific publications	23	22.97	●	*3rd sub-pillar: Inclusion*	46	71.28	
3rd sub-pillar: Future Technologies	30	47.45		3.3.1 E-Participation	47	67.44	
1.3.1 Adoption of emerging technologies	25	71.90		3.3.2 Socioeconomic gap in use of digital payments	59	79.29	
1.3.2 Investment in emerging technologies	12	78.75	●	3.3.3 Availability of local online content	39	76.68	

Indicator	Rank	Score	
1.3.3 Robot density	30	9.20	
1.3.4 Computer software spending	38	29.94	
B. People pillar	48	47.97	
1st sub-pillar: Individuals	56	49.37	
2.1.1 Mobile broadband internet traffic within the country	9	46.08	●
2.1.2 ICT skills in the education system	61	51.21	
2.1.3 Use of virtual social networks	37	74.10	
2.1.4 Tertiary enrollment	76	26.10	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	62	45.76	
2.2.1 Firms with website	69	44.71	
2.2.2 GERD financed by business enterprise	45	47.27	
2.2.3 Knowledge intensive employment	48	41.52	
2.2.4 Annual investment in telecommunication services	35	83.57	
2.2.5 GERD performed by business enterprise	41	11.70	
3rd sub-pillar: Governments	37	48.78	
2.3.1 Government online services	53	73.81	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	11	76.39	●
2.3.4 R&D expenditure by governments and higher education	43	16.96	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	68	66.70	
3.3.5 Rural gap in use of digital payments	58	66.29	
D. Impact pillar	41	59.81	
1st sub-pillar: Economy	15	53.67	
4.1.1 High-tech and medium-high-tech manufacturing	17	57.79	●
4.1.2 High-tech exports	4	93.51	●
4.1.3 PCT patent applications	50	5.69	
4.1.4 Domestic market size	30	67.85	
4.1.5 Prevalence of gig economy	6	85.76	●
4.1.6 ICT services exports	73	11.40	
2nd sub-pillar: Quality of Life	60	69.60	
4.2.1 Happiness	52	68.11	
4.2.2 Freedom to make life choices	36	83.77	
4.2.3 Income inequality	86	54.77	○
4.2.4 Healthy life expectancy at birth	71	71.74	
3rd sub-pillar: SDG Contribution	89	56.18	
4.3.1 SDG 3: Good Health and Well-Being	46	77.85	
4.3.2 SDG 4: Quality Education	47	39.53	
4.3.3 SDG 5: Women's economic opportunity	126	29.20	○
4.3.4 SDG 7: Affordable and Clean Energy	83	67.41	
4.3.5 SDG 11: Sustainable Cities and Communities	65	66.91	

NOTE: ● a strength and ○ a weakness.

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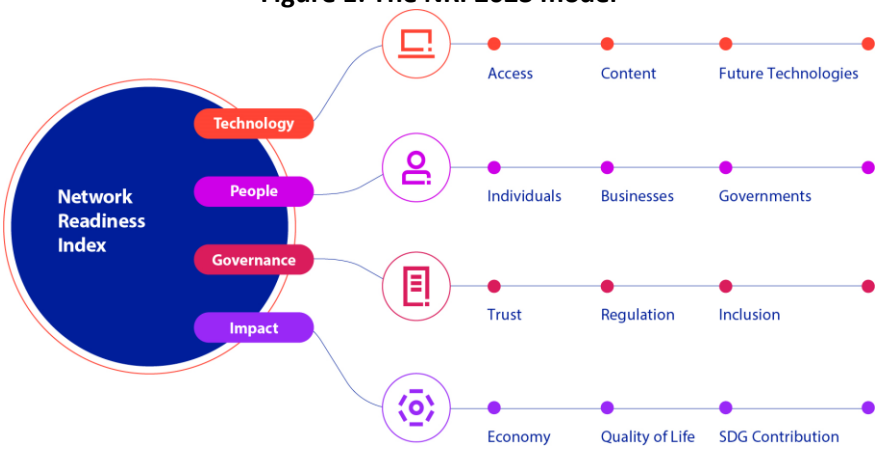
Mali

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

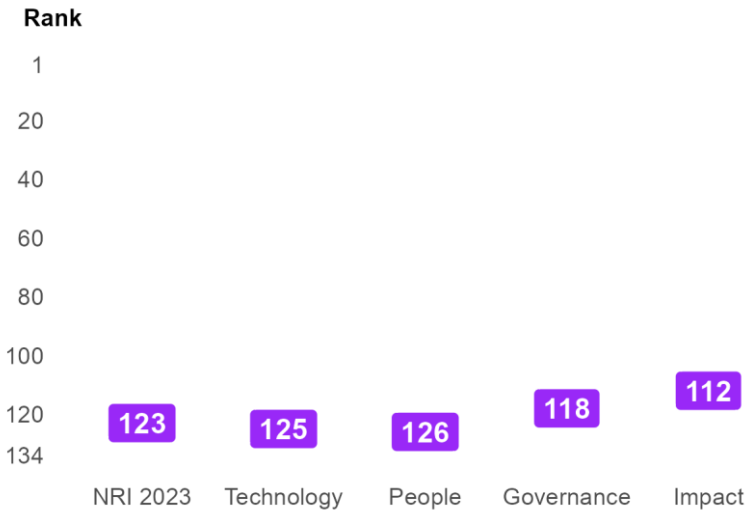
Figure 1: The NRI 2023 model



Global NRI position of Mali

Mali ranks 123rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mali global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mali relate to Economy, Quality of Life and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Trust and Individuals sub-pillars.

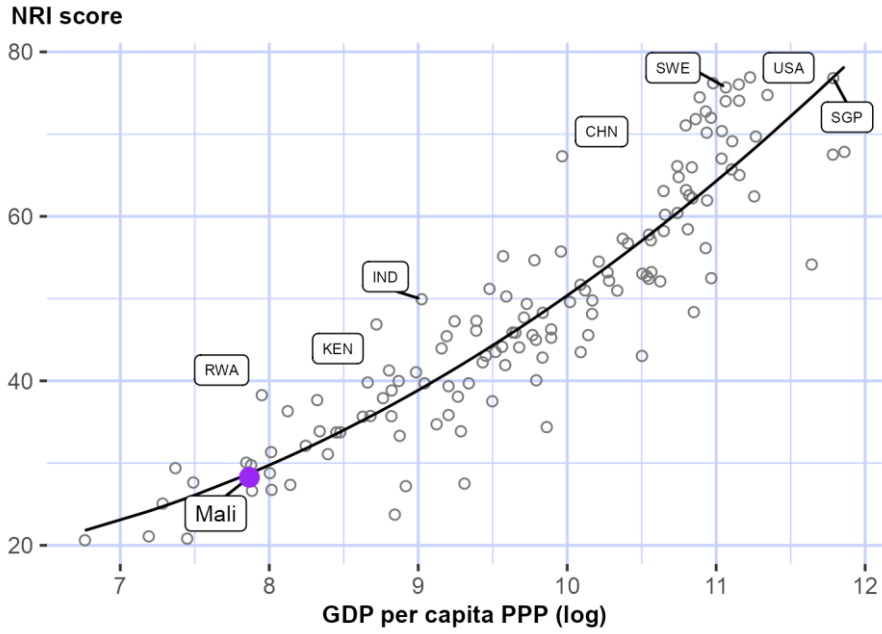
Table 1: Mali rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	94	Future Technologies	123
Quality of Life	103	SDG Contribution	123
Regulation	105	Content	124
Businesses	112	Governments	125
Inclusion	113	Trust	130
Access	118	Individuals	131

NRI score and income

Figure 3 shows the position of Mali in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mali is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mali belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Mali is ranked 5th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms low-income countries in seven of the twelve sub-pillars: Access, Businesses, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Africa

Mali is ranked 21st within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Africa in three of the twelve sub-pillars: Inclusion, Economy and Quality of Life.

Figure 4: Performance of Mali against its income group and region, overall and by pillar

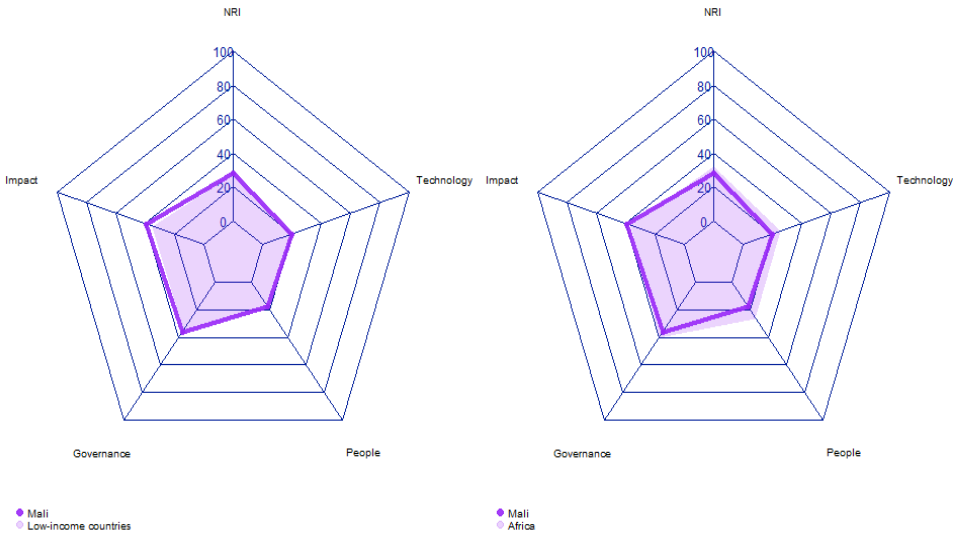


Table 2: Mali scores vs. averages of its income group and region, overall and by pillar

Dimension	Mali	Low-income countries	Africa
NRI	28.27	27.19	32.14
Technology	19.83	19.75	25.14
People	17.93	19.57	26.19
Governance	36.15	34.61	40.44
Impact	39.19	34.82	36.77

Strongest and weakest indicators

The indicators where Mali performs particularly well include 4.1.6 ICT services exports, 4.2.3 Income inequality, and 2.1.2 ICT skills in the education system (Table 3). By contrast, the economy's weakest indicators include 1.2.1 GitHub commits, 3.1.2 Cybersecurity, and 2.2.3 Knowledge intensive employment.

Table 3: Highlight of Strengths and Opportunities for Mali

Strongest indicators	Rank	Weakest indicators	Rank
4.1.6 ICT services exports	42	4.1.3 PCT patent applications	99
4.2.3 Income inequality	58	2.3.2 Publication and use of open data	103
2.1.2 ICT skills in the education system	65	2.1.5 Adult literacy rate	105
3.2.5 Privacy protection by law content	66	2.1.1 Mobile broadband internet traffic within the country	119
4.2.2 Freedom to make life choices	67	2.2.3 Knowledge intensive employment	125
1.2.2 Internet domain registrations	70	3.1.2 Cybersecurity	128
3.1.3 Online access to financial account	71	1.2.1 GitHub commits	130
4.1.2 High-tech exports	73		
3.2.2 ICT regulatory environment	79		
3.3.2 Socioeconomic gap in use of digital payments	84		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mali

Network Readiness Index — Rank: 123 (out of 134) — Score: 28.27

Pillar/sub-pillar	Rank	Score
A. Technology pillar	125	19.83
1st sub-pillar: Access	118	40.72
2nd sub-pillar: Content	124	1.55
3rd sub-pillar: Future Technologies	123	17.20
B. People pillar	126	17.93
1st sub-pillar: Individuals	131	12.21
2nd sub-pillar: Businesses	112	28.88
3rd sub-pillar: Governments	125	12.70

Pillar/sub-pillar	Rank	Score
C. Governance pillar	118	36.15
1st sub-pillar: Trust	130	13.58
2nd sub-pillar: Regulation	105	53.71
3rd sub-pillar: Inclusion	113	41.15
D. Impact pillar	112	39.19
1st sub-pillar: Economy	94	20.86
2nd sub-pillar: Quality of Life	103	52.67
3rd sub-pillar: SDG Contribution	123	44.05

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	125	19.83	
1st sub-pillar: Access	118	40.72	
1.1.1 Mobile tariffs	123	14.96	
1.1.2 Handset prices	123	18.29	
1.1.3 FTTH/building Internet subscriptions	88	20.26	
1.1.4 Population covered by at least a 3G mobile network	125	87.04	
1.1.5 International Internet bandwidth	107	63.04	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	124	1.55	
1.2.1 GitHub commits	130	0.13	○
1.2.2 Internet domain registrations	70	3.49	•
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	102	1.04	
3rd sub-pillar: Future Technologies	123	17.20	
1.3.1 Adoption of emerging technologies	120	16.80	
1.3.2 Investment in emerging technologies	90	33.25	

Indicator	Rank	Score	
C. Governance pillar	118	36.15	
1st sub-pillar: Trust	130	13.58	
3.1.1 Secure Internet servers	127	18.34	
3.1.2 Cybersecurity	128	8.56	○
3.1.3 Online access to financial account	71	24.23	•
3.1.4 Internet shopping	118	3.21	
2nd sub-pillar: Regulation	105	53.71	
3.2.1 Regulatory quality	106	35.56	
3.2.2 ICT regulatory environment	79	76.47	•
3.2.3 Regulation of emerging technologies	95	25.45	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	66	64.39	•
3rd sub-pillar: Inclusion	113	41.15	
3.3.1 E-Participation	111	25.58	
3.3.2 Socioeconomic gap in use of digital payments	84	63.47	•
3.3.3 Availability of local online content	113	29.57	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	118	1.55	
B. People pillar	126	17.93	
1st sub-pillar: Individuals	131	12.21	
2.1.1 Mobile broadband internet traffic within the country	119	0.28	○
2.1.2 ICT skills in the education system	65	49.24	●
2.1.3 Use of virtual social networks	126	4.59	
2.1.4 Tertiary enrollment	127	1.47	
2.1.5 Adult literacy rate	105	5.46	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	112	28.88	
2.2.1 Firms with website	79	37.78	
2.2.2 GERD financed by business enterprise	93	1.02	
2.2.3 Knowledge intensive employment	125	1.32	○
2.2.4 Annual investment in telecommunication services	84	75.39	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	125	12.70	
2.3.1 Government online services	119	29.84	
2.3.2 Publication and use of open data	103	1.47	○
2.3.3 Government promotion of investment in emerging tech	113	16.50	
2.3.4 R&D expenditure by governments and higher education	92	2.98	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	95	45.97	
D. Impact pillar	112	39.19	
1st sub-pillar: Economy	94	20.86	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	73	9.69	●
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	104	38.36	
4.1.5 Prevalence of gig economy	90	31.10	
4.1.6 ICT services exports	42	25.13	●
2nd sub-pillar: Quality of Life	103	52.67	
4.2.1 Happiness	112	34.56	
4.2.2 Freedom to make life choices	67	73.74	●
4.2.3 Income inequality	58	67.59	●
4.2.4 Healthy life expectancy at birth	122	34.79	
3rd sub-pillar: SDG Contribution	123	44.05	
4.3.1 SDG 3: Good Health and Well-Being	125	21.85	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	119	48.67	
4.3.4 SDG 7: Affordable and Clean Energy	91	65.61	
4.3.5 SDG 11: Sustainable Cities and Communities	112	40.08	

NOTE: ● a strength and ○ a weakness.

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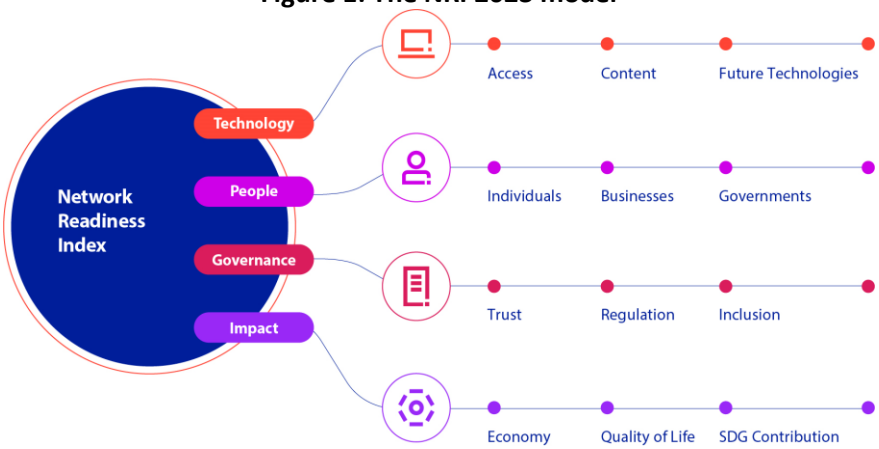
Malta

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

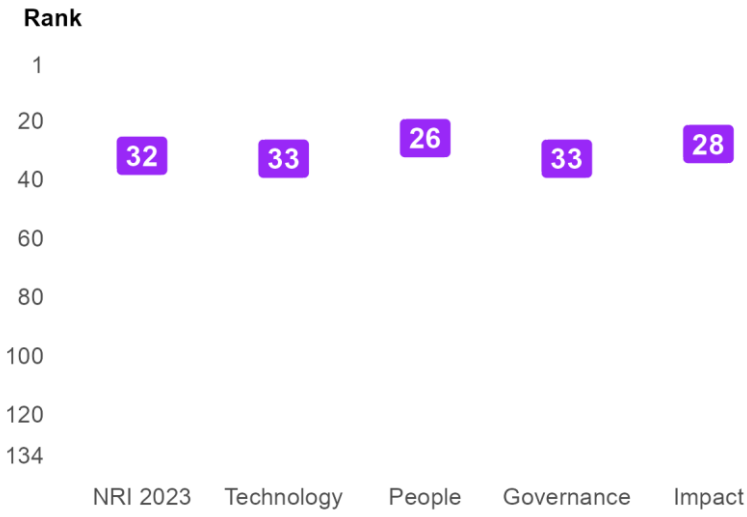
Figure 1: The NRI 2023 model



Global NRI position of Malta

Malta ranks 32nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology and Governance.

Figure 2: Malta global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Malta relate to Governments, SDG Contribution and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Inclusion and Access sub-pillars.

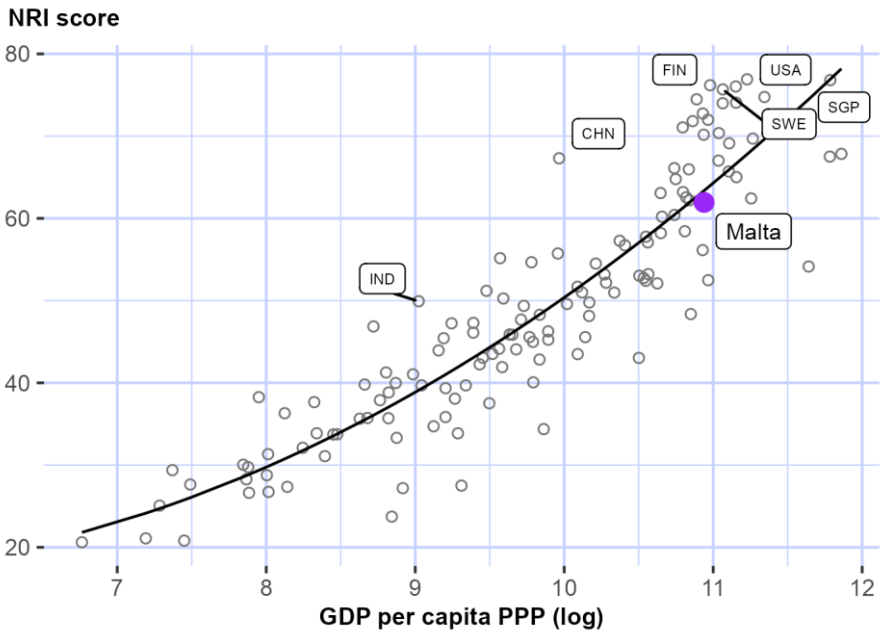
Table 1: Malta rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	22	Content	31
SDG Contribution	24	Businesses	33
Quality of Life	25	Individuals	34
Future Technologies	27	Trust	37
Regulation	28	Inclusion	38
Economy	30	Access	79

NRI score and income

Figure 3 shows the position of Malta in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Malta is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Malta belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Malta is ranked 31st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: People and Impact. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Individuals, Governments, Quality of Life and SDG Contribution.

Europe

Malta is ranked 22nd within Europe (Figure 4, right panel). It has a score above the regional average in two of the four pillars: NRI, People and Impact. With regard to sub-pillars, it outperforms the average in Europe in nine of the twelve sub-pillars: Future Technologies, Individuals, Businesses, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Malta against its income group and region, overall and by pillar

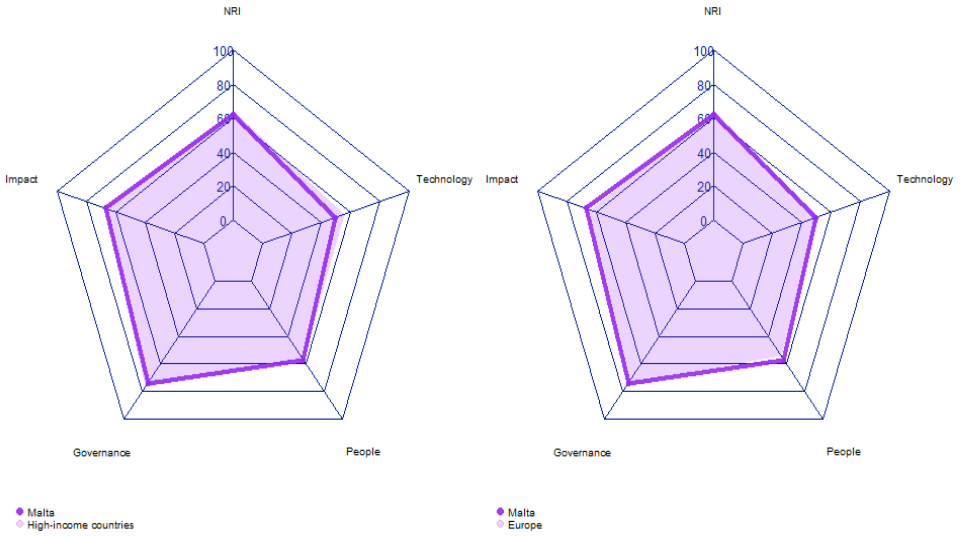


Table 2: Malta scores vs. averages of its income group and region, overall and by pillar

Dimension	Malta	High-income countries	Europe
NRI	61.94	64.07	61.25
Technology	49.71	55.76	51.90
People	57.05	56.99	54.16
Governance	73.95	76.81	74.33
Impact	67.04	66.73	64.61

Strongest and weakest indicators

The indicators where Malta performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 1.1.3 FTTH/building Internet subscriptions, 1.1.5 International Internet bandwidth, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Malta

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.1 Mobile broadband internet traffic within the country	107
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	113
4.3.4 SDG 7: Affordable and Clean Energy	3	1.2.4 AI scientific publications	113
4.1.2 High-tech exports	8	1.1.3 FTTH/building Internet subscriptions	116
3.2.2 ICT regulatory environment	9	4.1.4 Domestic market size	126
2.2.1 Firms with website	11		
4.2.4 Healthy life expectancy at birth	13		
2.2.2 GERD financed by business enterprise	14		
3.2.3 Regulation of emerging technologies	14		
2.3.3 Government promotion of investment in emerging technologies	15		
1.2.2 Internet domain registrations	18		
2.3.1 Government online services	18		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Malta

Network Readiness Index — Rank: 32 (out of 134) — Score: 61.94

Pillar/sub-pillar	Rank	Score
A. Technology pillar	33	49.71
1st sub-pillar: Access	79	60.65
2nd sub-pillar: Content	31	39.60
3rd sub-pillar: Future Technologies	27	48.89
B. People pillar	26	57.05
1st sub-pillar: Individuals	34	53.97
2nd sub-pillar: Businesses	33	59.92
3rd sub-pillar: Governments	22	57.26

Pillar/sub-pillar	Rank	Score
C. Governance pillar	33	73.95
1st sub-pillar: Trust	37	67.76
2nd sub-pillar: Regulation	28	79.80
3rd sub-pillar: Inclusion	38	74.31
D. Impact pillar	28	67.04
1st sub-pillar: Economy	30	40.30
2nd sub-pillar: Quality of Life	25	80.26
3rd sub-pillar: SDG Contribution	24	80.57

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	33	49.71	
1st sub-pillar: Access	79	60.65	
1.1.1 Mobile tariffs	43	72.85	
1.1.2 Handset prices	43	62.20	
1.1.3 FTTH/building Internet subscriptions	116	6.37	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	113	61.84	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	31	39.60	
1.2.1 GitHub commits	31	34.37	
1.2.2 Internet domain registrations	18	47.27	●
1.2.3 Mobile apps development	17	76.24	
1.2.4 AI scientific publications	113	0.51	○
3rd sub-pillar: Future Technologies	27	48.89	
1.3.1 Adoption of emerging technologies	37	61.51	
1.3.2 Investment in emerging technologies	38	53.50	

Indicator	Rank	Score	
C. Governance pillar	33	73.95	
1st sub-pillar: Trust	37	67.76	
3.1.1 Secure Internet servers	38	76.43	
3.1.2 Cybersecurity	57	83.36	
3.1.3 Online access to financial account	31	51.17	
3.1.4 Internet shopping	34	60.06	
2nd sub-pillar: Regulation	28	79.80	
3.2.1 Regulatory quality	38	67.98	
3.2.2 ICT regulatory environment	9	95.29	●
3.2.3 Regulation of emerging technologies	14	80.26	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	86	55.44	
3rd sub-pillar: Inclusion	38	74.31	
3.3.1 E-Participation	22	75.59	
3.3.2 Socioeconomic gap in use of digital payments	47	84.38	
3.3.3 Availability of local online content	54	66.35	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	30	31.65	
B. People pillar	26	57.05	
1st sub-pillar: Individuals	34	53.97	
2.1.1 Mobile broadband internet traffic within the country	107	1.40	○
2.1.2 ICT skills in the education system	55	54.45	
2.1.3 Use of virtual social networks	36	74.49	
2.1.4 Tertiary enrollment	30	46.42	
2.1.5 Adult literacy rate	52	93.09	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	33	59.92	
2.2.1 Firms with website	11	85.26	●
2.2.2 GERD financed by business enterprise	14	74.47	●
2.2.3 Knowledge intensive employment	21	69.70	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	44	10.23	
3rd sub-pillar: Governments	22	57.26	
2.3.1 Government online services	18	87.28	●
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	15	73.14	●
2.3.4 R&D expenditure by governments and higher education	56	11.35	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	37	70.29	
3.3.5 Rural gap in use of digital payments	29	74.97	
D. Impact pillar	28	67.04	
1st sub-pillar: Economy	30	40.30	
4.1.1 High-tech and medium-high-tech manufacturing	32	44.79	
4.1.2 High-tech exports	8	59.89	●
4.1.3 PCT patent applications	19	42.22	
4.1.4 Domestic market size	126	31.43	○
4.1.5 Prevalence of gig economy	33	59.59	
4.1.6 ICT services exports	102	3.85	
2nd sub-pillar: Quality of Life	25	80.26	
4.2.1 Happiness	38	73.41	
4.2.2 Freedom to make life choices	57	77.06	
4.2.3 Income inequality	27	79.40	
4.2.4 Healthy life expectancy at birth	13	91.17	●
3rd sub-pillar: SDG Contribution	24	80.57	
4.3.1 SDG 3: Good Health and Well-Being	28	86.75	
4.3.2 SDG 4: Quality Education	41	50.93	
4.3.3 SDG 5: Women's economic opportunity	36	87.61	
4.3.4 SDG 7: Affordable and Clean Energy	3	90.17	●
4.3.5 SDG 11: Sustainable Cities and Communities	25	87.38	

NOTE: ● a strength and ○ a weakness.

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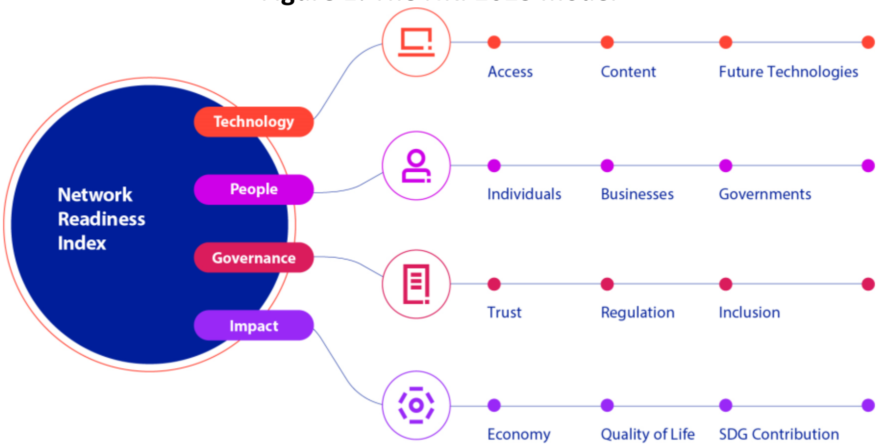
Mauritania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

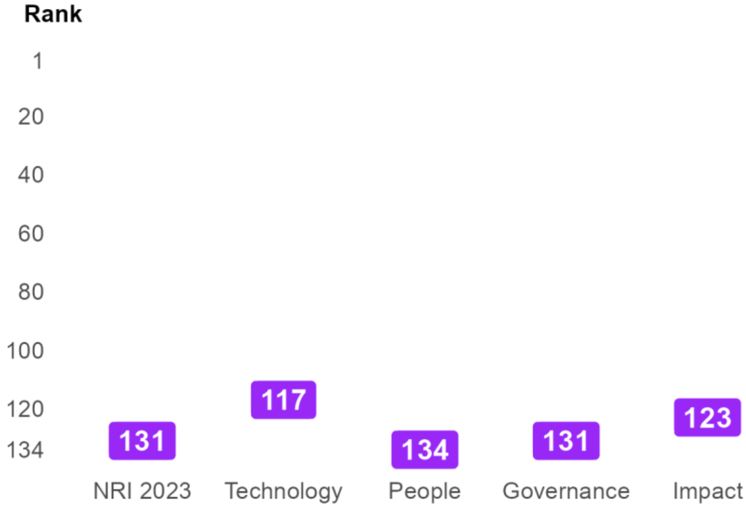
Figure 1: The NRI 2023 model



Global NRI position of Mauritania

Mauritania ranks 131st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mauritania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mauritania relate to Future Technologies, Quality of Life and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Businesses, Content and Governments sub-pillars.

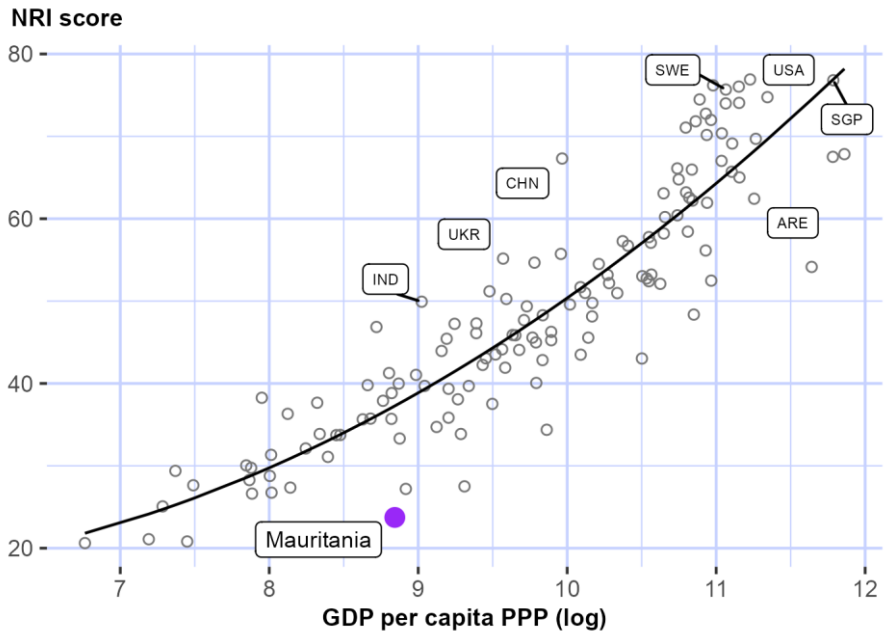
Table 1: Mauritania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	56	Inclusion	128
Quality of Life	101	Trust	131
Access	124	Economy	131
Individuals	124	Businesses	132
SDG Contribution	127	Content	133
Regulation	128	Governments	134

NRI score and income

Figure 3 shows the position of Mauritania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mauritania is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mauritania belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Mauritania is ranked 40th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in one of the twelve sub-pillars: Future Technologies.

Arab States

Mauritania is ranked 13th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Mauritania against its income group and region, overall and by pillar

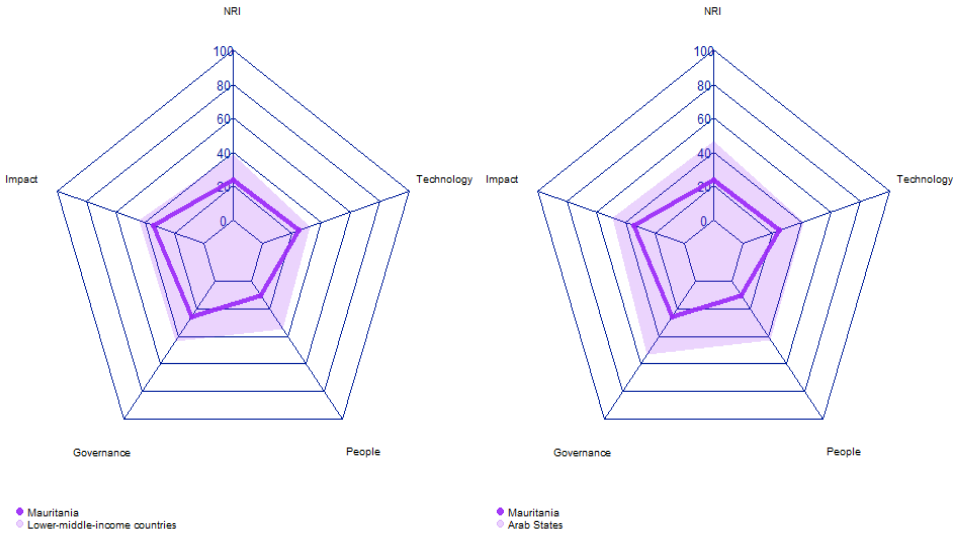


Table 2: Mauritania scores vs. averages of its income group and region, overall and by pillar

Dimension	Mauritania	Lower-middle-income countries	Arab States
NRI	23.73	38.41	46.59
Technology	24.72	32.12	41.17
People	10.13	34.38	42.66
Governance	25.39	43.27	53.45
Impact	34.70	43.89	49.08

Strongest and weakest indicators

The indicators where Mauritania performs particularly well include 1.3.4 Computer software spending, 4.2.3 Income inequality, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 2.3.1 Government online services, 3.3.1 E-Participation, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Highlight of Strengths and Opportunities for Mauritania

Strongest indicators	Rank	Weakest indicators	Rank
1.3.4 Computer software spending	33	4.1.3 PCT patent applications	99
4.2.3 Income inequality	34	2.3.4 R&D expenditure by governments and higher education	115
4.3.4 SDG 7: Affordable and Clean Energy	46	2.2.4 Annual investment in telecommunication services	124
3.3.2 Socioeconomic gap in use of digital payments	52	1.2.1 GitHub commits	128
1.3.2 Investment in emerging technologies	60	4.3.3 SDG 5: Women's economic opportunity	128
2.2.1 Firms with website	83	1.1.5 International Internet bandwidth	130
2.1.1 Mobile broadband internet traffic within the country	95	1.2.4 AI scientific publications	130
4.2.1 Happiness	96	3.2.5 Privacy protection by law content	130
4.1.2 High-tech exports	98	1.1.4 Population covered by at least a 3G mobile network	132
4.2.4 Healthy life expectancy at birth	105	2.3.1 Government online services	133
		3.3.1 E-Participation	133

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mauritania

Network Readiness Index Rank: 131 (out of 134) Score: 23.73

Pillar/sub-pillar	Rank	Score
A. Technology pillar	117	24.72
1st sub-pillar: Access	124	37.94
2nd sub-pillar: Content	133	0.15
3rd sub-pillar: Future Technologies	56	36.08
B. People pillar	134	10.13
1st sub-pillar: Individuals	124	18.42
2nd sub-pillar: Businesses	132	11.98
3rd sub-pillar: Governments	134	0.00

Pillar/sub-pillar	Rank	Score
C. Governance pillar	131	25.39
1st sub-pillar: Trust	131	12.69
2nd sub-pillar: Regulation	128	33.92
3rd sub-pillar: Inclusion	128	29.55
D. Impact pillar	123	34.70
1st sub-pillar: Economy	131	9.50
2nd sub-pillar: Quality of Life	101	53.50
3rd sub-pillar: SDG Contribution	127	41.10

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	117	24.72	
1st sub-pillar: Access	124	37.94	
1.1.1 Mobile tariffs	116	25.44	
1.1.2 Handset prices	122	18.54	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	132	60.18	○
1.1.5 International Internet bandwidth	130	47.60	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	133	0.15	
1.2.1 GitHub commits	128	0.25	○
1.2.2 Internet domain registrations	124	0.14	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	130	0.04	○
3rd sub-pillar: Future Technologies	56	36.08	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	60	41.25	

Indicator	Rank	Score	
C. Governance pillar	131	25.39	
1st sub-pillar: Trust	131	12.69	
3.1.1 Secure Internet servers	126	21.16	
3.1.2 Cybersecurity	119	17.51	
3.1.3 Online access to financial account	115	8.20	
3.1.4 Internet shopping	115	3.88	
2nd sub-pillar: Regulation	128	33.92	
3.2.1 Regulatory quality	126	25.76	
3.2.2 ICT regulatory environment	116	61.18	
3.2.3 Regulation of emerging technologies	119	1.04	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	130	14.95	○
3rd sub-pillar: Inclusion	128	29.55	
3.3.1 E-Participation	133	0.00	○
3.3.2 Socioeconomic gap in use of digital payments	52	82.96	
3.3.3 Availability of local online content	121	25.00	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	33	30.91	
B. People pillar	134	10.13	
1st sub-pillar: Individuals	124	18.42	
2.1.1 Mobile broadband internet traffic within the country	95	2.58	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	112	14.08	
2.1.4 Tertiary enrollment	124	2.13	
2.1.5 Adult literacy rate	95	54.89	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	132	11.98	
2.2.1 Firms with website	83	35.93	
2.2.2 GERD financed by business enterprise	100	0.00	
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	124	0.00	○
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	134	0.00	
2.3.1 Government online services	133	0.00	○
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	115	0.00	○

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	123	10.24	
D. Impact pillar	123	34.70	
1st sub-pillar: Economy	131	9.50	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	98	3.47	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	124	31.67	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	107	2.85	
2nd sub-pillar: Quality of Life	101	53.50	
4.2.1 Happiness	96	44.11	
4.2.2 Freedom to make life choices	120	41.52	
4.2.3 Income inequality	34	76.38	
4.2.4 Healthy life expectancy at birth	105	51.99	
3rd sub-pillar: SDG Contribution	127	41.10	
4.3.1 SDG 3: Good Health and Well-Being	126	18.63	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	128	26.55	○
4.3.4 SDG 7: Affordable and Clean Energy	46	75.79	
4.3.5 SDG 11: Sustainable Cities and Communities	107	43.43	

NOTE: ● a strength and ○ a weakness.

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Mauritius

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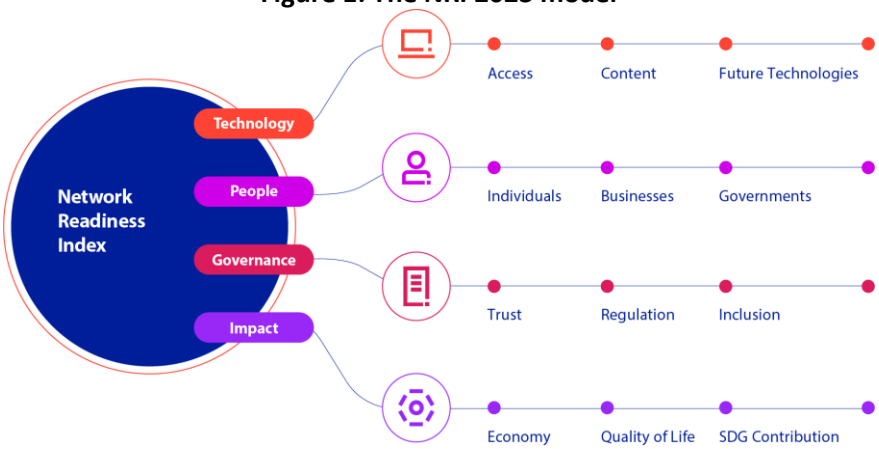
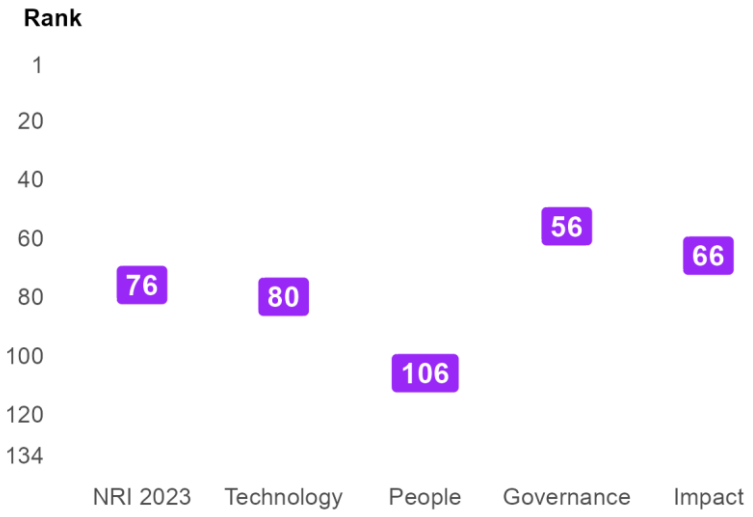
Figure 1: The NRI 2023 model



Global NRI position of Mauritius

Mauritius ranks 76th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mauritius global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mauritius relate to SDG Contribution, Regulation and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Economy and Businesses sub-pillars.

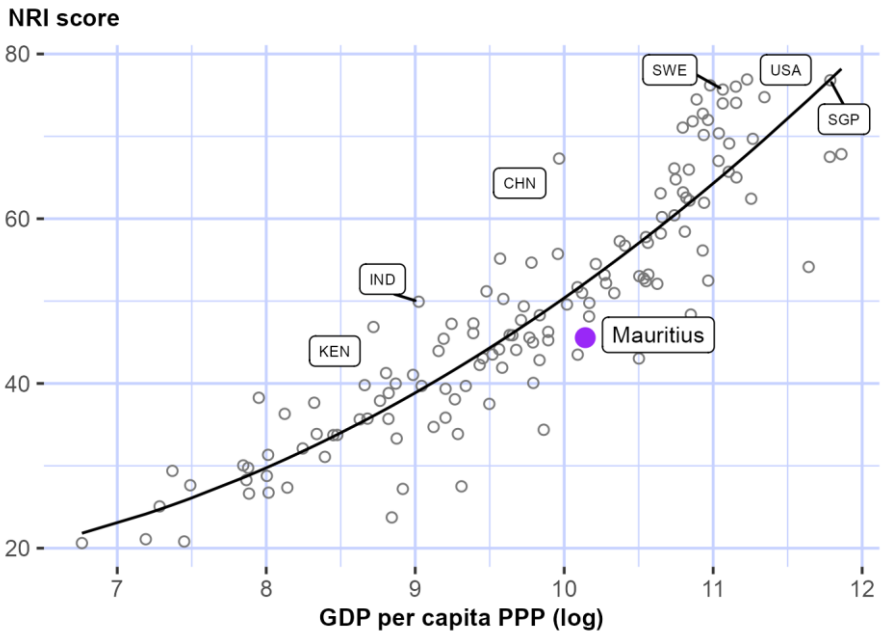
Table 1: Mauritius rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	33	Content	78
Regulation	53	Individuals	78
Inclusion	59	Future Technologies	83
Trust	63	Governments	88
Access	67	Economy	96
Quality of Life	76	Businesses	131

NRI score and income

Figure 3 shows the position of Mauritius in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mauritius is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mauritius belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Upper-middle-income countries

Mauritius is ranked 23rd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Access, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Africa

Mauritius is ranked 3rd within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Mauritius against its income group and region, overall and by pillar

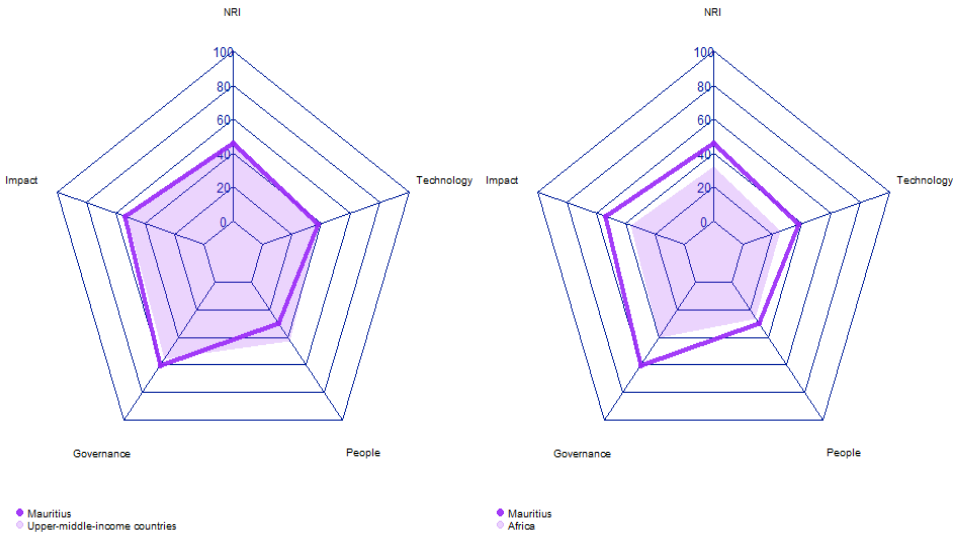


Table 2: Mauritius scores vs. averages of its income group and region, overall and by pillar

Dimension	Mauritius	Upper-middle-income countries	Africa
NRI	45.56	47.35	32.14
Technology	37.88	38.48	25.14
People	30.00	42.59	26.19
Governance	60.51	55.90	40.44
Impact	53.85	52.43	36.77

Strongest and weakest indicators

The indicators where Mauritius performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 4.1.4 Domestic market size, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Mauritius

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.1 Mobile broadband internet traffic within the country	103
3.2.4 E-commerce legislation	1	4.1.1 High-tech and medium-high-tech manufacturing	105
4.3.4 SDG 7: Affordable and Clean Energy	10	1.2.4 AI scientific publications	116
3.1.2 Cybersecurity	23	4.1.2 High-tech exports	123
3.2.1 Regulatory quality	27	4.1.4 Domestic market size	123
4.1.6 ICT services exports	37		
4.3.3 SDG 5: Women's economic opportunity	42		
3.3.5 Rural gap in use of digital payments	43		
1.2.2 Internet domain registrations	48		
4.3.5 SDG 11: Sustainable Cities and Communities	48		
3.3.2 Socioeconomic gap in use of digital payments	49		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mauritius

Network Readiness Index Rank: 76 (out of 134) Score: 45.56

Pillar/sub-pillar	Rank	Score
A. Technology pillar	80	37.88
1st sub-pillar: Access	67	64.84
2nd sub-pillar: Content	78	20.05
3rd sub-pillar: Future Technologies	83	28.75
B. People pillar	106	30.00
1st sub-pillar: Individuals	78	44.34
2nd sub-pillar: Businesses	131	12.97
3rd sub-pillar: Governments	88	32.70

Pillar/sub-pillar	Rank	Score
C. Governance pillar	56	60.51
1st sub-pillar: Trust	63	47.75
2nd sub-pillar: Regulation	53	70.43
3rd sub-pillar: Inclusion	59	63.34
D. Impact pillar	66	53.85
1st sub-pillar: Economy	96	19.16
2nd sub-pillar: Quality of Life	76	66.33
3rd sub-pillar: SDG Contribution	33	76.05

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	80	37.88	
1st sub-pillar: Access	67	64.84	
1.1.1 Mobile tariffs	73	59.15	
1.1.2 Handset prices	84	39.77	
1.1.3 FTTH/building Internet subscriptions	76	25.28	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	98	65.19	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	78	20.05	
1.2.1 GitHub commits	69	6.02	
1.2.2 Internet domain registrations	48	8.28	●
1.2.3 Mobile apps development	66	65.47	
1.2.4 AI scientific publications	116	0.44	○
3rd sub-pillar: Future Technologies	83	28.75	
1.3.1 Adoption of emerging technologies	87	38.18	
1.3.2 Investment in emerging technologies	82	35.00	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	56	60.51	
1st sub-pillar: Trust	63	47.75	
3.1.1 Secure Internet servers	65	54.41	
3.1.2 Cybersecurity	23	96.84	●
3.1.3 Online access to financial account	84	18.11	
3.1.4 Internet shopping	66	21.64	
2nd sub-pillar: Regulation	53	70.43	
3.2.1 Regulatory quality	27	75.97	●
3.2.2 ICT regulatory environment	77	77.06	
3.2.3 Regulation of emerging technologies	65	43.90	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	88	55.25	
3rd sub-pillar: Inclusion	59	63.34	
3.3.1 E-Participation	86	40.70	
3.3.2 Socioeconomic gap in use of digital payments	49	83.94	●
3.3.3 Availability of local online content	77	54.09	
3.3.4 Gender gap in Internet use	71	66.54	

Indicator	Rank	Score	
1.3.4 Computer software spending	83	13.05	
B. People pillar	106	30.00	
1st sub-pillar: Individuals	78	44.34	
2.1.1 Mobile broadband internet traffic within the country	103	1.75	○
2.1.2 ICT skills in the education system	80	38.81	
2.1.3 Use of virtual social networks	66	63.15	
2.1.4 Tertiary enrollment	69	28.72	
2.1.5 Adult literacy rate	62	89.28	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	131	12.97	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	82	5.07	
2.2.3 Knowledge intensive employment	60	33.31	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	78	0.54	
3rd sub-pillar: Governments	88	32.70	
2.3.1 Government online services	77	58.91	
2.3.2 Publication and use of open data	61	26.47	
2.3.3 Government promotion of investment in emerging tech	60	38.99	
2.3.4 R&D expenditure by governments and higher education	70	6.42	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	43	71.42	●
D. Impact pillar	66	53.85	
1st sub-pillar: Economy	96	19.16	
4.1.1 High-tech and medium-high-tech manufacturing	105	2.10	○
4.1.2 High-tech exports	123	0.45	○
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	123	32.38	○
4.1.5 Prevalence of gig economy	84	34.01	
4.1.6 ICT services exports	37	26.85	●
2nd sub-pillar: Quality of Life	76	66.33	
4.2.1 Happiness	72	63.02	
4.2.2 Freedom to make life choices	74	70.50	
4.2.3 Income inequality	59	65.83	
4.2.4 Healthy life expectancy at birth	88	65.98	
3rd sub-pillar: SDG Contribution	33	76.05	
4.3.1 SDG 3: Good Health and Well-Being	90	59.47	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	42	84.96	●
4.3.4 SDG 7: Affordable and Clean Energy	10	84.32	●
4.3.5 SDG 11: Sustainable Cities and Communities	48	75.46	●

NOTE: ● a strength and ○ a weakness.

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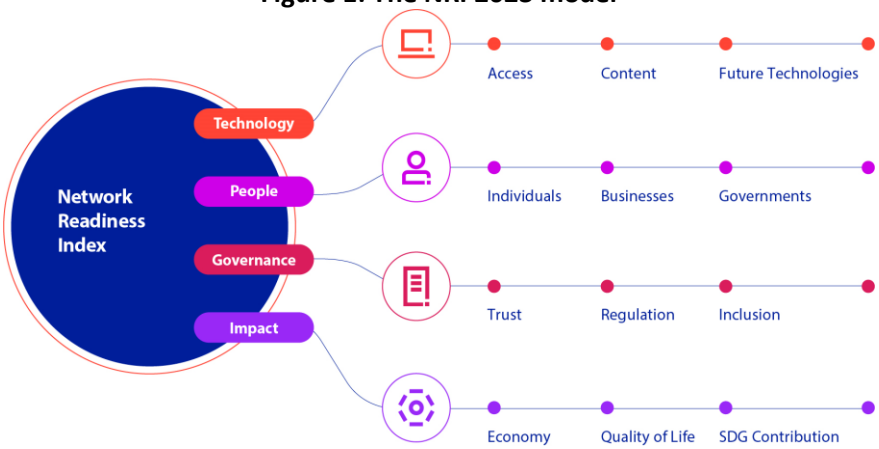
Mexico

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

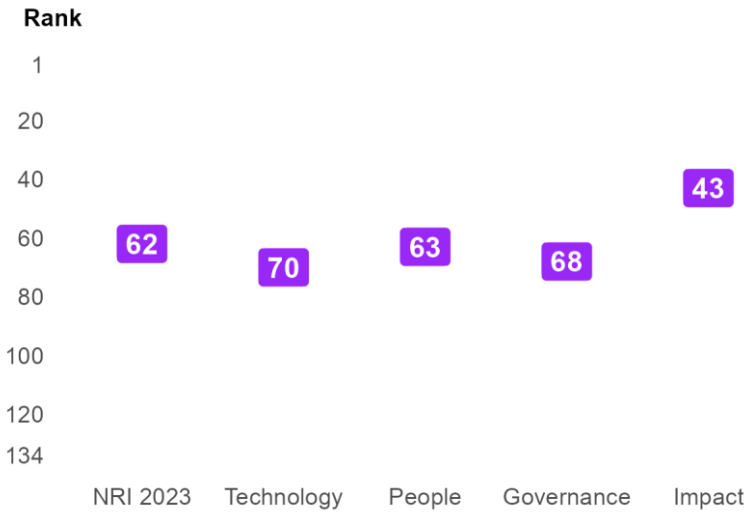
Figure 1: The NRI 2023 model



Global NRI position of Mexico

Mexico ranks 62nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Mexico global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mexico relate to Governments, Economy and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Inclusion and Businesses sub-pillars.

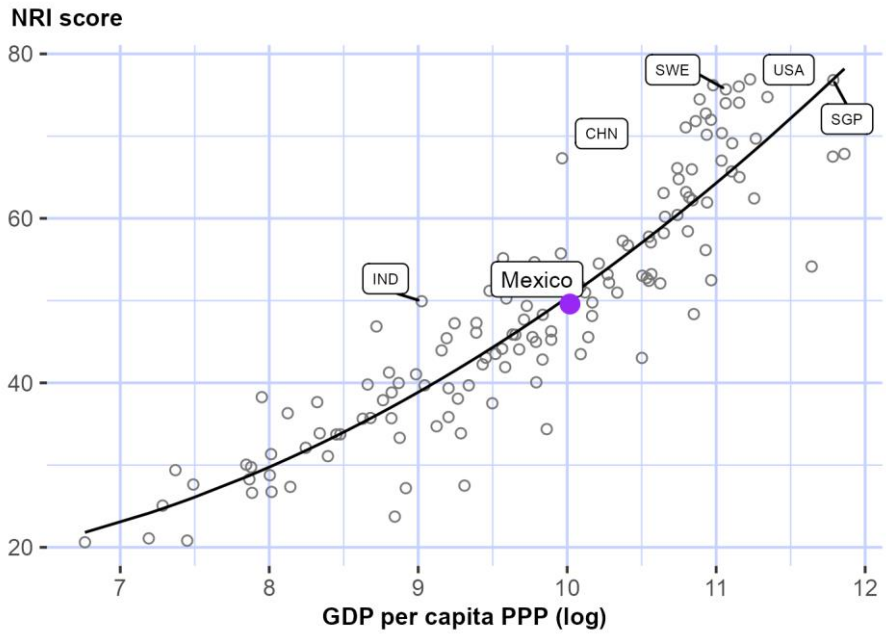
Table 1: Mexico rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	28	Access	63
Economy	42	Trust	71
Regulation	46	Future Technologies	75
SDG Contribution	50	Individuals	76
Quality of Life	57	Inclusion	91
Content	62	Businesses	95

NRI score and income

Figure 3 shows the position of Mexico in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mexico is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mexico belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Mexico is ranked 13th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in eight of the twelve sub-pillars: Access, Content, Future Technologies, Governments, Regulation, Economy, Quality of Life and SDG Contribution.

The Americas

Mexico is ranked 8th within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in six of the twelve sub-pillars: Access, Governments, Trust, Regulation, Economy and Quality of Life.

Figure 4: Performance of Mexico against its income group and region, overall and by pillar

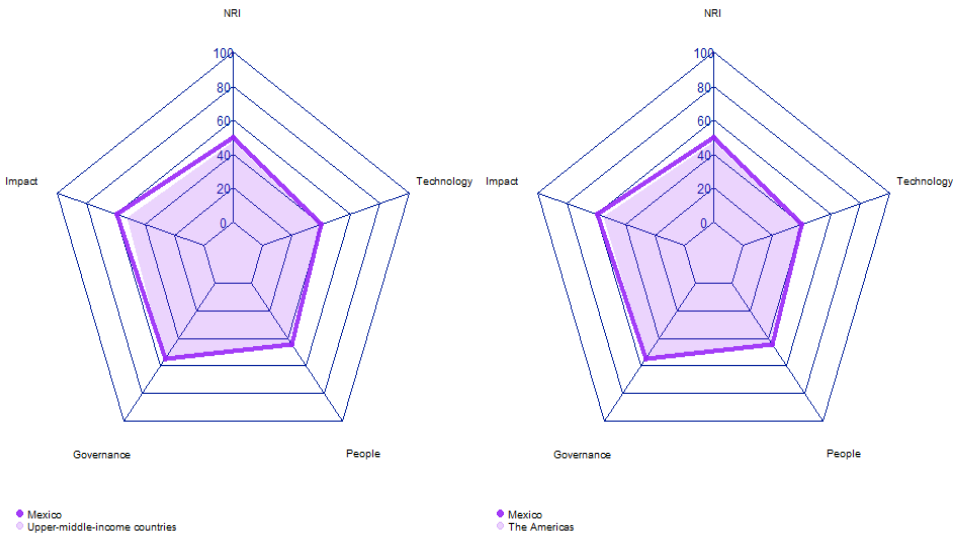


Table 2: Mexico scores vs. averages of its income group and region, overall and by pillar

Dimension	Mexico	Upper-middle-income countries	The Americas
NRI	49.59	47.35	47.41
Technology	39.64	38.48	38.24
People	44.44	42.59	42.35
Governance	55.15	55.90	54.12
Impact	59.11	52.43	54.93

Strongest and weakest indicators

The indicators where Mexico performs particularly well include 3.2.4 E-commerce legislation, 2.3.2 Publication and use of open data, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 3.3.2 Socioeconomic gap in use of digital payments, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Mexico

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	40
2.3.2 Publication and use of open data	6	4.2.3 Income inequality	98
4.2.1 Happiness	10	3.3.5 Rural gap in use of digital payments	115
1.1.3 FTTH/building Internet subscriptions	13	3.3.2 Socioeconomic gap in use of digital payments	126
4.1.4 Domestic market size	13	4.1.6 ICT services exports	133
3.2.2 ICT regulatory environment	14		
2.2.4 Annual investment in telecommunication services	16		
4.1.1 High-tech and medium-high-tech manufacturing	16		
1.2.4 AI scientific publications	22		
2.1.1 Mobile broadband internet traffic within the country	24		
4.1.2 High-tech exports	25		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mexico

Network Readiness Index — Rank: 62 (out of 134) — Score: 49.59

Pillar/sub-pillar	Rank	Score
A. Technology pillar	70	39.64
1st sub-pillar: Access	63	65.26
2nd sub-pillar: Content	62	23.83
3rd sub-pillar: Future Technologies	75	29.83
B. People pillar	63	44.44
1st sub-pillar: Individuals	76	44.87
2nd sub-pillar: Businesses	95	35.39
3rd sub-pillar: Governments	28	53.07
C. Governance pillar	68	55.15
1st sub-pillar: Trust	71	42.14
2nd sub-pillar: Regulation	46	72.21
3rd sub-pillar: Inclusion	91	51.10
D. Impact pillar	43	59.11
1st sub-pillar: Economy	42	36.09
2nd sub-pillar: Quality of Life	57	71.10
3rd sub-pillar: SDG Contribution	50	70.15

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	70	39.64	
1st sub-pillar: Access	63	65.26	
1.1.1 Mobile tariffs	93	45.92	
1.1.2 Handset prices	30	70.63	
1.1.3 FTTH/building Internet subscriptions	13	58.82	•
1.1.4 Population covered by at least a 3G mobile network	86	98.68	
1.1.5 International Internet bandwidth	28	78.66	
1.1.6 Internet access in schools	57	38.88	
2nd sub-pillar: Content	62	23.83	
1.2.1 GitHub commits	82	3.93	
1.2.2 Internet domain registrations	66	3.89	
1.2.3 Mobile apps development	72	64.45	
1.2.4 AI scientific publications	22	23.04	•
3rd sub-pillar: Future Technologies	75	29.83	
1.3.1 Adoption of emerging technologies	47	55.16	
1.3.2 Investment in emerging technologies	66	39.75	

Indicator	Rank	Score	
C. Governance pillar	68	55.15	
1st sub-pillar: Trust	71	42.14	
3.1.1 Secure Internet servers	81	46.27	
3.1.2 Cybersecurity	60	81.36	
3.1.3 Online access to financial account	91	16.28	
3.1.4 Internet shopping	63	24.64	
2nd sub-pillar: Regulation	46	72.21	
3.2.1 Regulatory quality	83	44.39	
3.2.2 ICT regulatory environment	14	94.12	•
3.2.3 Regulation of emerging technologies	73	41.30	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	29	81.25	
3rd sub-pillar: Inclusion	91	51.10	
3.3.1 E-Participation	32	72.10	
3.3.2 Socioeconomic gap in use of digital payments	126	31.18	○
3.3.3 Availability of local online content	65	60.34	

Indicator	Rank	Score	
1.3.3 Robot density	34	7.45	
1.3.4 Computer software spending	76	16.96	
B. People pillar	63	44.44	
1st sub-pillar: Individuals	76	44.87	
2.1.1 Mobile broadband internet traffic within the country	24	34.20	●
2.1.2 ICT skills in the education system	81	37.11	
2.1.3 Use of virtual social networks	50	69.11	
2.1.4 Tertiary enrollment	70	28.41	
2.1.5 Adult literacy rate	49	93.51	
2.1.6 AI talent concentration	40	6.87	○
2nd sub-pillar: Businesses	95	35.39	
2.2.1 Firms with website	81	36.91	
2.2.2 GERD financed by business enterprise	69	22.01	
2.2.3 Knowledge intensive employment	72	28.14	
2.2.4 Annual investment in telecommunication services	16	88.29	●
2.2.5 GERD performed by business enterprise	65	1.61	
3rd sub-pillar: Governments	28	53.07	
2.3.1 Government online services	31	80.60	
2.3.2 Publication and use of open data	6	89.71	●
2.3.3 Government promotion of investment in emerging tech	68	36.80	
2.3.4 R&D expenditure by governments and higher education	77	5.16	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	58	67.88	
3.3.5 Rural gap in use of digital payments	115	24.03	○
D. Impact pillar	43	59.11	
1st sub-pillar: Economy	42	36.09	
4.1.1 High-tech and medium-high-tech manufacturing	16	57.97	●
4.1.2 High-tech exports	25	35.68	●
4.1.3 PCT patent applications	65	2.76	
4.1.4 Domestic market size	13	77.37	●
4.1.5 Prevalence of gig economy	61	42.73	
4.1.6 ICT services exports	133	0.01	○
2nd sub-pillar: Quality of Life	57	71.10	
4.2.1 Happiness	10	87.15	●
4.2.2 Freedom to make life choices	44	80.94	
4.2.3 Income inequality	98	44.22	○
4.2.4 Healthy life expectancy at birth	70	72.07	
3rd sub-pillar: SDG Contribution	50	70.15	
4.3.1 SDG 3: Good Health and Well-Being	53	74.70	
4.3.2 SDG 4: Quality Education	54	33.50	
4.3.3 SDG 5: Women's economic opportunity	44	84.07	
4.3.4 SDG 7: Affordable and Clean Energy	35	78.32	
4.3.5 SDG 11: Sustainable Cities and Communities	36	80.15	

NOTE: ● a strength and ○ a weakness.

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Moldova

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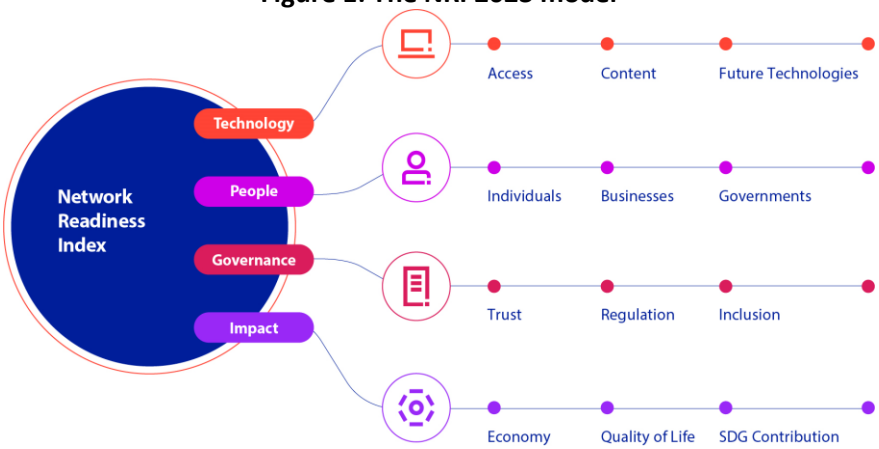
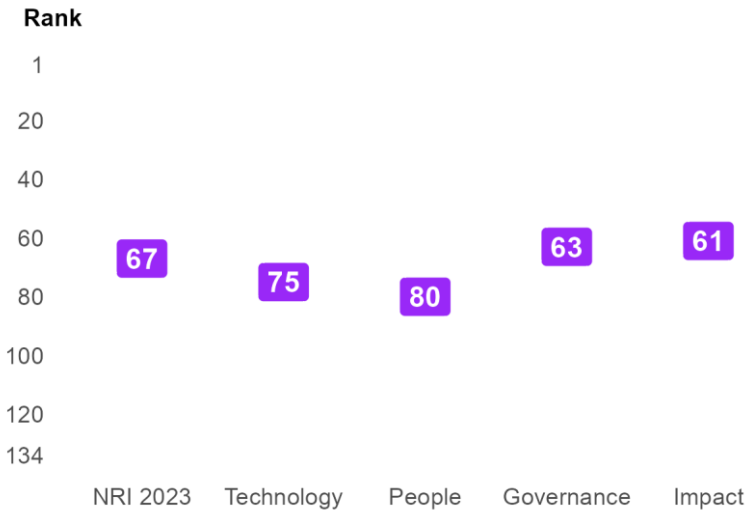
Figure 1: The NRI 2023 model



Global NRI position of Moldova

Moldova ranks 67th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Moldova global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Moldova relate to Quality of Life, Access and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Businesses and Future Technologies sub-pillars.

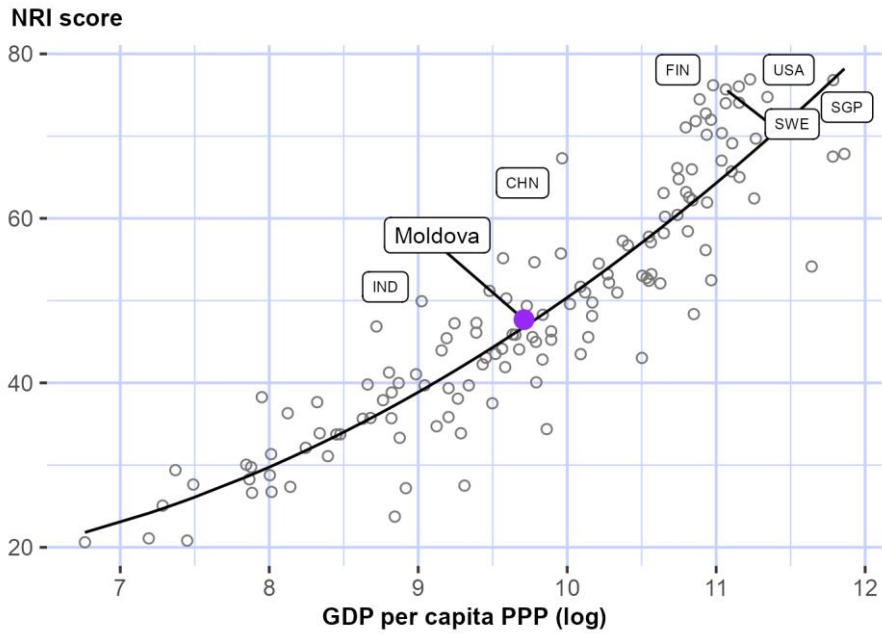
Table 1: Moldova rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	42	Economy	69
Access	46	Individuals	71
Trust	59	SDG Contribution	73
Governments	60	Regulation	76
Content	63	Businesses	101
Inclusion	68	Future Technologies	108

NRI score and income

Figure 3 shows the position of Moldova in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Moldova is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Moldova belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Moldova is ranked 17th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in six of the twelve sub-pillars: Access, Content, Governments, Trust, Inclusion and Quality of Life.

Europe

Moldova is ranked 37th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Moldova against its income group and region, overall and by pillar

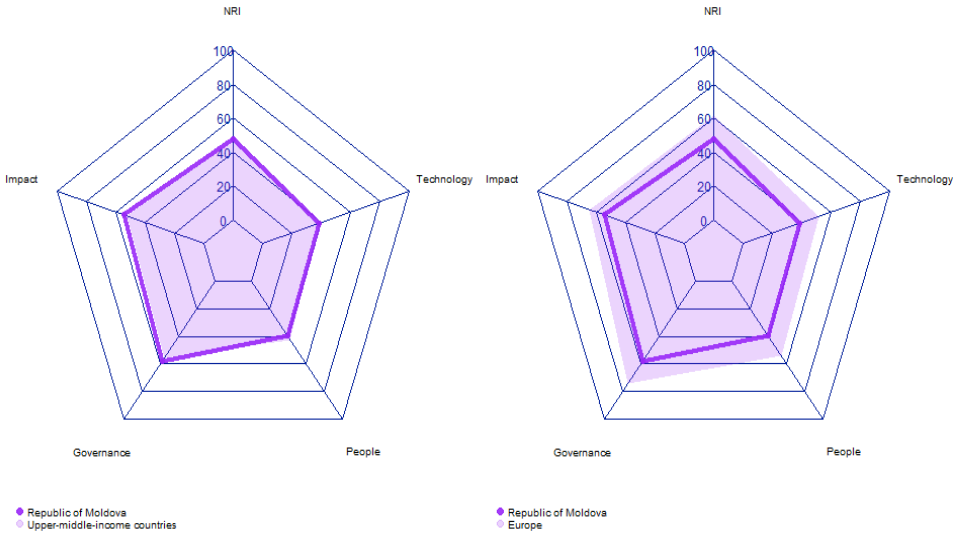


Table 2: Moldova scores vs. averages of its income group and region, overall and by pillar

Dimension	Moldova	Upper-middle-income countries	Europe
NRI	47.69	47.35	61.25
Technology	38.65	38.48	51.90
People	39.82	42.59	54.16
Governance	57.92	55.90	74.33
Impact	54.37	52.43	64.61

Strongest and weakest indicators

The indicators where Moldova performs particularly well include 4.2.3 Income inequality, 1.2.3 Mobile apps development, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.1.4 Domestic market size, and 3.2.5 Privacy protection by law content.

Table 3: Highlight of Strengths and Opportunities for Moldova

Strongest indicators	Rank	Weakest indicators	Rank
4.2.3 Income inequality	4	3.2.4 E-commerce legislation	87
1.2.3 Mobile apps development	11	2.2.4 Annual investment in telecommunication services	108
2.1.5 Adult literacy rate	12	3.2.5 Privacy protection by law content	109
4.1.6 ICT services exports	12	4.1.4 Domestic market size	116
1.1.4 Population covered by at least a 3G mobile network	28	1.3.2 Investment in emerging technologies	119
2.3.2 Publication and use of open data	34		
3.2.2 ICT regulatory environment	34		
1.1.3 FTTH/building Internet subscriptions	44		
1.1.2 Handset prices	47		
3.1.1 Secure Internet servers	48		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Moldova

Network Readiness Index — Rank: 67 (out of 134) — Score: 47.69

Pillar/sub-pillar	Rank	Score
A. Technology pillar	75	38.65
1st sub-pillar: Access	46	70.87
2nd sub-pillar: Content	63	23.71
3rd sub-pillar: Future Technologies	108	21.37
B. People pillar	80	39.82
1st sub-pillar: Individuals	71	46.54
2nd sub-pillar: Businesses	101	32.15
3rd sub-pillar: Governments	60	40.77

Pillar/sub-pillar	Rank	Score
C. Governance pillar	63	57.92
1st sub-pillar: Trust	59	49.57
2nd sub-pillar: Regulation	76	62.78
3rd sub-pillar: Inclusion	68	61.41
D. Impact pillar	61	54.37
1st sub-pillar: Economy	69	27.02
2nd sub-pillar: Quality of Life	42	74.82
3rd sub-pillar: SDG Contribution	73	61.26

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	75	38.65	
1st sub-pillar: Access	46	70.87	
1.1.1 Mobile tariffs	68	60.66	
1.1.2 Handset prices	47	60.28	●
1.1.3 FTTH/building Internet subscriptions	44	36.58	●
1.1.4 Population covered by at least a 3G mobile network	28	99.97	●
1.1.5 International Internet bandwidth	55	73.24	
1.1.6 Internet access in schools	36	94.47	
2nd sub-pillar: Content	63	23.71	
1.2.1 GitHub commits	52	11.55	
1.2.2 Internet domain registrations	68	3.57	
1.2.3 Mobile apps development	11	78.87	●
1.2.4 AI scientific publications	107	0.85	
3rd sub-pillar: Future Technologies	108	21.37	
1.3.1 Adoption of emerging technologies	90	37.40	
1.3.2 Investment in emerging technologies	119	19.50	○

Indicator	Rank	Score	
C. Governance pillar	63	57.92	
1st sub-pillar: Trust	59	49.57	
3.1.1 Secure Internet servers	48	68.84	●
3.1.2 Cybersecurity	71	75.35	
3.1.3 Online access to financial account	70	25.65	
3.1.4 Internet shopping	60	28.44	
2nd sub-pillar: Regulation	76	62.78	
3.2.1 Regulatory quality	71	49.92	
3.2.2 ICT regulatory environment	34	89.41	●
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	109	45.12	○
3rd sub-pillar: Inclusion	68	61.41	
3.3.1 E-Participation	47	67.44	
3.3.2 Socioeconomic gap in use of digital payments	79	66.08	
3.3.3 Availability of local online content	61	62.74	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	93	7.23	
B. People pillar	80	39.82	
1st sub-pillar: Individuals	71	46.54	
2.1.1 Mobile broadband internet traffic within the country	90	4.18	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	93	42.03	
2.1.4 Tertiary enrollment	50	40.48	
2.1.5 Adult literacy rate	12	99.45	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	101	32.15	
2.2.1 Firms with website	70	44.59	
2.2.2 GERD financed by business enterprise	72	19.17	
2.2.3 Knowledge intensive employment	81	24.37	
2.2.4 Annual investment in telecommunication services	108	71.49	○
2.2.5 GERD performed by business enterprise	73	1.10	
3rd sub-pillar: Governments	60	40.77	
2.3.1 Government online services	60	71.04	
2.3.2 Publication and use of open data	34	45.59	●
2.3.3 Government promotion of investment in emerging tech	54	42.47	
2.3.4 R&D expenditure by governments and higher education	86	3.99	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	93	49.37	
D. Impact pillar	61	54.37	
1st sub-pillar: Economy	69	27.02	
4.1.1 High-tech and medium-high-tech manufacturing	63	22.34	
4.1.2 High-tech exports	94	3.81	
4.1.3 PCT patent applications	62	3.82	
4.1.4 Domestic market size	116	35.29	○
4.1.5 Prevalence of gig economy	62	42.15	
4.1.6 ICT services exports	12	54.71	●
2nd sub-pillar: Quality of Life	42	74.82	
4.2.1 Happiness	74	62.01	
4.2.2 Freedom to make life choices	64	75.55	
4.2.3 Income inequality	4	93.72	●
4.2.4 Healthy life expectancy at birth	81	67.99	
3rd sub-pillar: SDG Contribution	73	61.26	
4.3.1 SDG 3: Good Health and Well-Being	81	64.14	
4.3.2 SDG 4: Quality Education	50	36.85	
4.3.3 SDG 5: Women's economic opportunity	53	82.30	
4.3.4 SDG 7: Affordable and Clean Energy	96	63.22	
4.3.5 SDG 11: Sustainable Cities and Communities	77	59.81	

NOTE: ● a strength and ○ a weakness.

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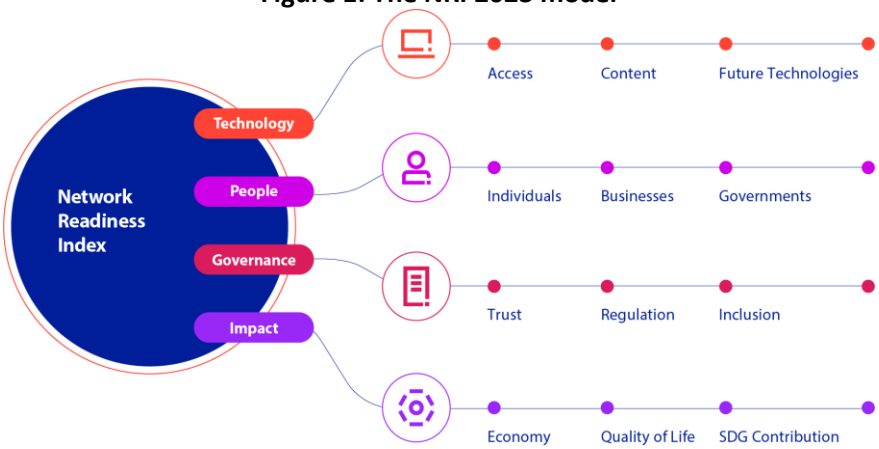
Mongolia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

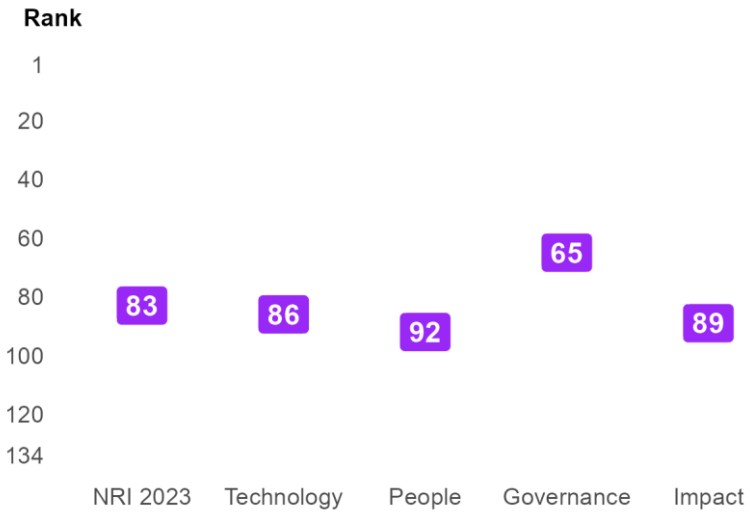
Figure 1: The NRI 2023 model



Global NRI position of Mongolia

Mongolia ranks 83rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mongolia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mongolia relate to Inclusion, Individuals and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Regulation and Businesses sub-pillars.

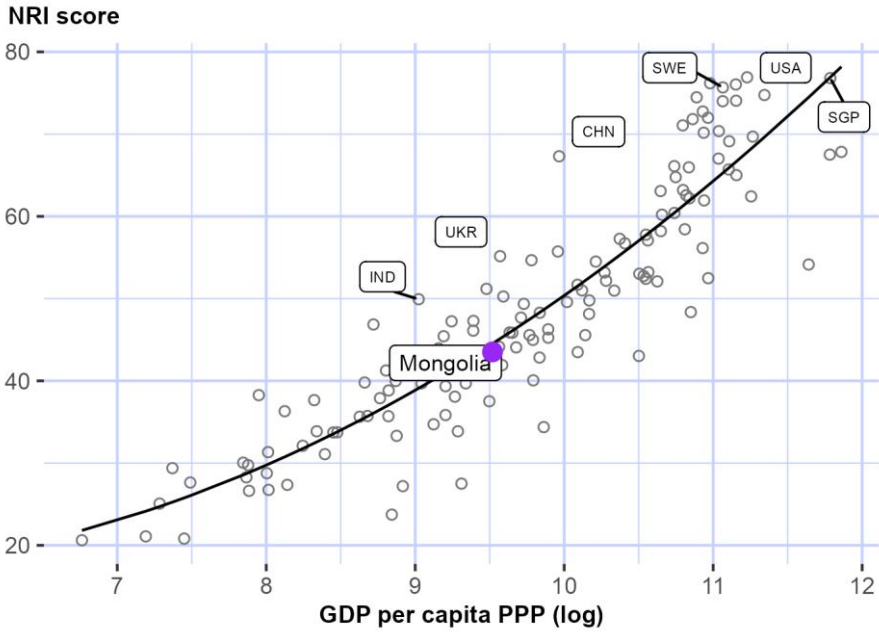
Table 1: Mongolia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	51	Content	96
Individuals	60	Governments	97
Trust	66	Economy	98
Access	74	Future Technologies	101
SDG Contribution	74	Regulation	101
Quality of Life	85	Businesses	105

NRI score and income

Figure 3 shows the position of Mongolia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mongolia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mongolia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Mongolia is ranked 11th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Access, Content, Individuals, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Asia & Pacific

Mongolia is ranked 15th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Inclusion.

Figure 4: Performance of Mongolia against its income group and region, overall and by pillar

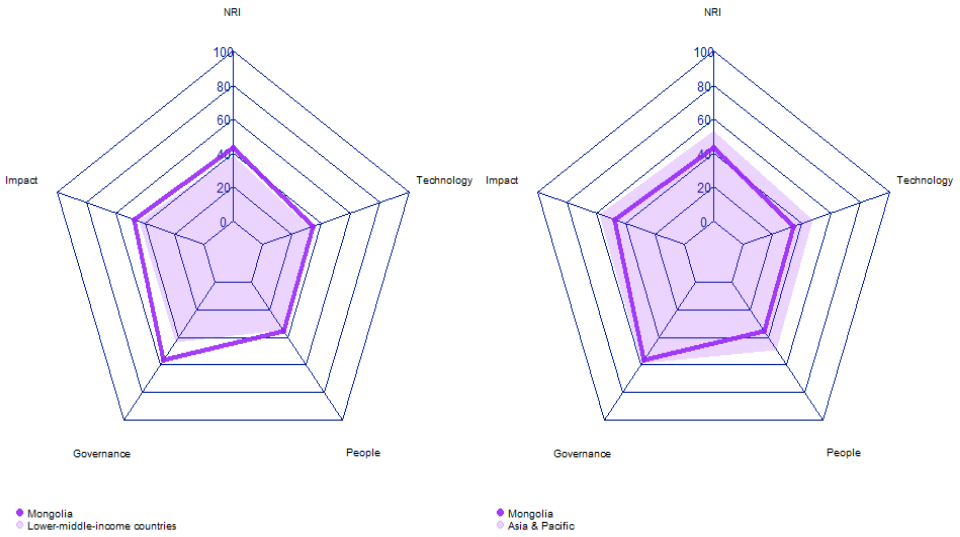


Table 2: Mongolia scores vs. averages of its income group and region, overall and by pillar

Dimension	Mongolia	Lower-middle-income countries	Asia & Pacific
NRI	43.52	38.41	53.28
Technology	34.56	32.12	47.34
People	35.51	34.38	48.95
Governance	56.46	43.27	59.22
Impact	47.53	43.89	57.62

Strongest and weakest indicators

The indicators where Mongolia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.3.2 Socioeconomic gap in use of digital payments, and 4.1.2 High-tech exports (Table 3). By contrast, the economy's weakest indicators include 1.3.1 Adoption of emerging technologies, 4.1.1 High-tech and medium-high-tech manufacturing, and 2.1.2 ICT skills in the education system.

Table 3: Highlight of Strengths and Opportunities for Mongolia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.2.5 GERD performed by business enterprise	83
3.3.2 Socioeconomic gap in use of digital payments	6	3.2.4 E-commerce legislation	87
4.1.2 High-tech exports	18	2.1.2 ICT skills in the education system	97
2.1.5 Adult literacy rate	19	4.1.1 High-tech and medium-high-tech manufacturing	104
3.3.5 Rural gap in use of digital payments	32	1.3.1 Adoption of emerging technologies	112
3.1.3 Online access to financial account	36		
4.2.3 Income inequality	36		
2.1.4 Tertiary enrollment	39		
4.3.3 SDG 5: Women's economic opportunity	39		
3.1.4 Internet shopping	44		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mongolia

Network Readiness Index Rank: 83 (out of 134) Score: 43.52

Pillar/sub-pillar	Rank	Score
A. Technology pillar	86	34.56
1st sub-pillar: Access	74	62.29
2nd sub-pillar: Content	96	17.31
3rd sub-pillar: Future Technologies	101	24.07
B. People pillar	92	35.51
1st sub-pillar: Individuals	60	48.66
2nd sub-pillar: Businesses	105	30.98
3rd sub-pillar: Governments	97	26.90

Pillar/sub-pillar	Rank	Score
C. Governance pillar	65	56.46
1st sub-pillar: Trust	66	44.89
2nd sub-pillar: Regulation	101	56.11
3rd sub-pillar: Inclusion	51	68.39
D. Impact pillar	89	47.53
1st sub-pillar: Economy	98	18.93
2nd sub-pillar: Quality of Life	85	62.69
3rd sub-pillar: SDG Contribution	74	60.97

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	86	34.56	
1st sub-pillar: Access	74	62.29	
1.1.1 Mobile tariffs	60	63.74	
1.1.2 Handset prices	87	38.40	
1.1.3 FTTH/building Internet subscriptions	51	33.12	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	88	67.83	
1.1.6 Internet access in schools	46	70.66	
2nd sub-pillar: Content	96	17.31	
1.2.1 GitHub commits	68	6.14	
1.2.2 Internet domain registrations	82	1.98	
1.2.3 Mobile apps development	86	59.47	
1.2.4 AI scientific publications	94	1.65	
3rd sub-pillar: Future Technologies	101	24.07	
1.3.1 Adoption of emerging technologies	112	25.94	○
1.3.2 Investment in emerging technologies	92	33.00	
1.3.3 Robot density	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	65	56.46	
1st sub-pillar: Trust	66	44.89	
3.1.1 Secure Internet servers	59	59.48	
3.1.2 Cybersecurity	113	24.90	
3.1.3 Online access to financial account	36	46.58	●
3.1.4 Internet shopping	44	48.61	●
2nd sub-pillar: Regulation	101	56.11	
3.2.1 Regulatory quality	82	44.89	
3.2.2 ICT regulatory environment	76	79.41	
3.2.3 Regulation of emerging technologies	88	30.65	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	82	58.95	
3rd sub-pillar: Inclusion	51	68.39	
3.3.1 E-Participation	57	59.31	
3.3.2 Socioeconomic gap in use of digital payments	6	99.34	●
3.3.3 Availability of local online content	97	42.55	
3.3.4 Gender gap in Internet use	69	66.57	

Indicator	Rank	Score	
1.3.4 Computer software spending	82	13.28	
B. People pillar	92	35.51	
1st sub-pillar: Individuals	60	48.66	
2.1.1 Mobile broadband internet traffic within the country	77	7.11	
2.1.2 ICT skills in the education system	97	23.57	○
2.1.3 Use of virtual social networks	55	68.72	
2.1.4 Tertiary enrollment	39	45.01	●
2.1.5 Adult literacy rate	19	98.88	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	105	30.98	
2.2.1 Firms with website	89	32.35	
2.2.2 GERD financed by business enterprise	77	10.01	
2.2.3 Knowledge intensive employment	50	39.12	
2.2.4 Annual investment in telecommunication services	96	73.20	
2.2.5 GERD performed by business enterprise	83	0.20	○
3rd sub-pillar: Governments	97	26.90	
2.3.1 Government online services	78	58.70	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	105	19.80	
2.3.4 R&D expenditure by governments and higher education	99	2.21	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	32	74.19	●
D. Impact pillar	89	47.53	
1st sub-pillar: Economy	98	18.93	
4.1.1 High-tech and medium-high-tech manufacturing	104	2.59	○
4.1.2 High-tech exports	18	39.70	●
4.1.3 PCT patent applications	67	2.58	
4.1.4 Domestic market size	112	36.54	
4.1.5 Prevalence of gig economy	92	29.65	
4.1.6 ICT services exports	110	2.53	
2nd sub-pillar: Quality of Life	85	62.69	
4.2.1 Happiness	70	63.90	
4.2.2 Freedom to make life choices	101	57.00	
4.2.3 Income inequality	36	76.13	●
4.2.4 Healthy life expectancy at birth	102	53.74	
3rd sub-pillar: SDG Contribution	74	60.97	
4.3.1 SDG 3: Good Health and Well-Being	91	57.38	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	39	86.73	●
4.3.4 SDG 7: Affordable and Clean Energy	110	53.97	
4.3.5 SDG 11: Sustainable Cities and Communities	101	45.81	

NOTE: ● a strength and ○ a weakness.

Sources

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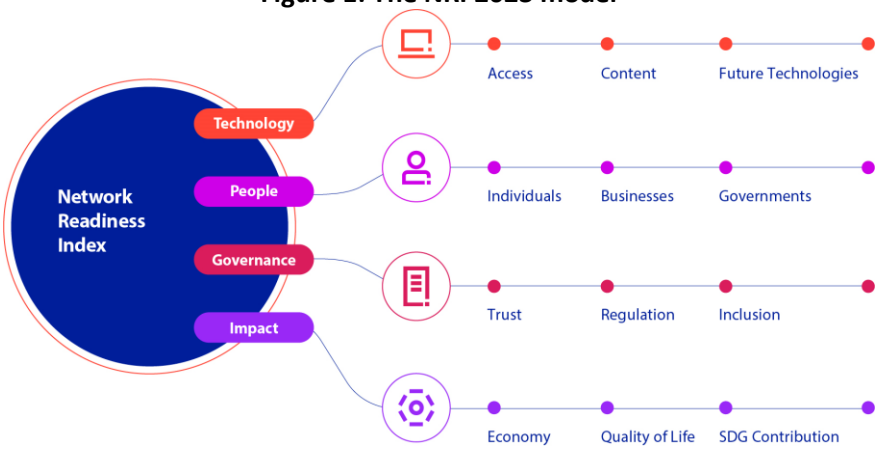
Montenegro

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

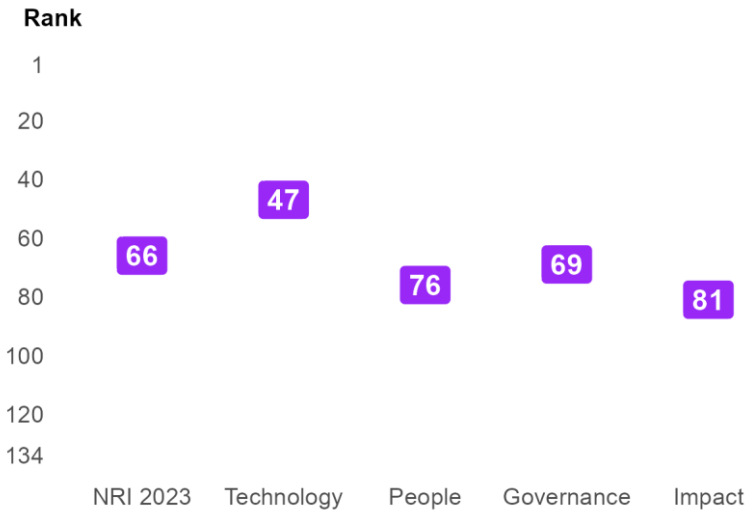
Figure 1: The NRI 2023 model



Global NRI position of Montenegro

Montenegro ranks 66th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Montenegro global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Montenegro relate to Content, Individuals and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Access and Governments sub-pillars.

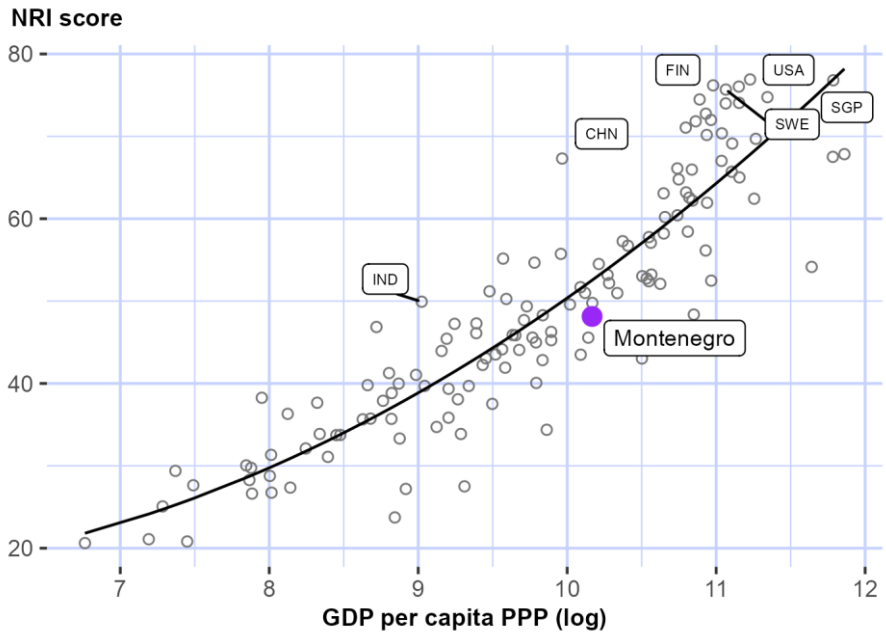
Table 1: Montenegro rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	20	Businesses	74
Individuals	45	SDG Contribution	82
Inclusion	55	Economy	83
Future Technologies	59	Trust	88
Quality of Life	64	Access	92
Regulation	70	Governments	94

NRI score and income

Figure 3 shows the position of Montenegro in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Montenegro is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Montenegro belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Montenegro is ranked 16th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: NRI and Technology. At the sub-pillar level, it outperforms upper-middle-income countries in seven of the twelve sub-pillars: Content, Future Technologies, Individuals, Businesses, Regulation, Inclusion and Quality of Life.

Europe

Montenegro is ranked 36th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Content and Individuals.

Figure 4: Performance of Montenegro against its income group and region, overall and by pillar

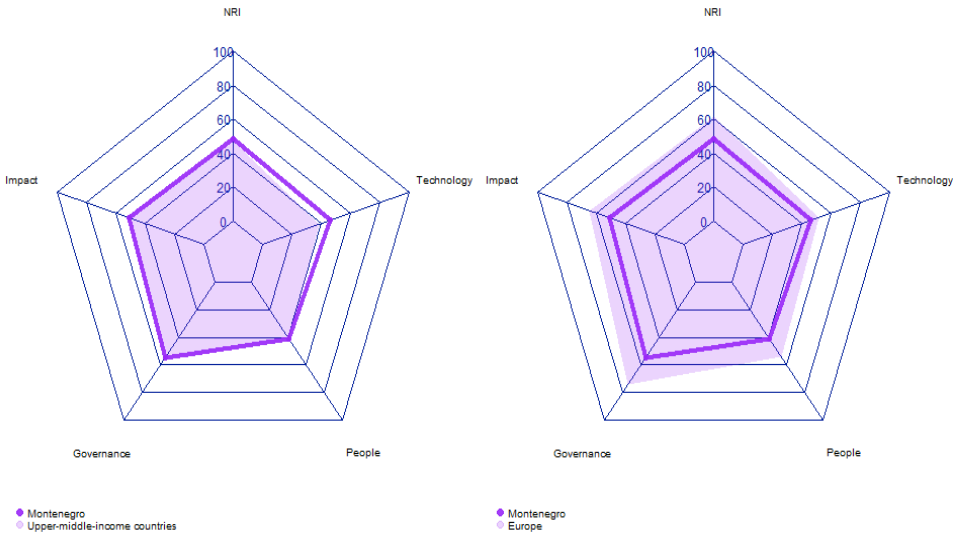


Table 2: Montenegro scores vs. averages of its income group and region, overall and by pillar

Dimension	Montenegro	Upper-middle-income countries	Europe
NRI	48.14	47.35	61.25
Technology	45.88	38.48	51.90
People	41.00	42.59	54.16
Governance	55.08	55.90	74.33
Impact	50.58	52.43	64.61

Strongest and weakest indicators

The indicators where Montenegro performs particularly well include 1.2.2 Internet domain registrations, 3.3.5 Rural gap in use of digital payments, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 4.1.4 Domestic market size, 1.2.4 AI scientific publications, and 2.2.4 Annual investment in telecommunication services.

Table 3: Highlight of Strengths and Opportunities for Montenegro

Strongest indicators	Rank	Weakest indicators	Rank
1.2.2 Internet domain registrations	1	3.2.4 E-commerce legislation	87
3.3.5 Rural gap in use of digital payments	4	2.1.1 Mobile broadband internet traffic within the country	102
2.1.5 Adult literacy rate	21	2.2.4 Annual investment in telecommunication services	109
3.2.2 ICT regulatory environment	26	1.2.4 AI scientific publications	112
4.1.6 ICT services exports	26	4.1.4 Domestic market size	129
2.2.3 Knowledge intensive employment	37		
1.2.1 GitHub commits	38		
4.1.3 PCT patent applications	38		
2.1.3 Use of virtual social networks	43		
3.2.1 Regulatory quality	50		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Montenegro

Network Readiness Index Rank: 66 (out of 134) Score: 48.14

Pillar/sub-pillar	Rank	Score
A. Technology pillar	47	45.88
1st sub-pillar: Access	92	54.27
2nd sub-pillar: Content	20	48.55
3rd sub-pillar: Future Technologies	59	34.83
B. People pillar	76	41.00
1st sub-pillar: Individuals	45	51.79
2nd sub-pillar: Businesses	74	42.93
3rd sub-pillar: Governments	94	28.26

Pillar/sub-pillar	Rank	Score
C. Governance pillar	69	55.08
1st sub-pillar: Trust	88	34.21
2nd sub-pillar: Regulation	70	64.68
3rd sub-pillar: Inclusion	55	66.36
D. Impact pillar	81	50.58
1st sub-pillar: Economy	83	22.70
2nd sub-pillar: Quality of Life	64	68.94
3rd sub-pillar: SDG Contribution	82	60.11

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	47	45.88	
1st sub-pillar: Access	92	54.27	
1.1.1 Mobile tariffs	104	36.22	
1.1.2 Handset prices	56	54.44	
1.1.3 FTTH/building Internet subscriptions	97	14.79	
1.1.4 Population covered by at least a 3G mobile network	80	99.33	
1.1.5 International Internet bandwidth	93	66.57	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	20	48.55	
1.2.1 GitHub commits	38	25.12	●
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	57	68.50	
1.2.4 AI scientific publications	112	0.57	○
3rd sub-pillar: Future Technologies	59	34.83	
1.3.1 Adoption of emerging technologies	71	44.68	
1.3.2 Investment in emerging technologies	89	33.50	

Indicator	Rank	Score	
C. Governance pillar	69	55.08	
1st sub-pillar: Trust	88	34.21	
3.1.1 Secure Internet servers	67	53.17	
3.1.2 Cybersecurity	92	52.41	
3.1.3 Online access to financial account	90	16.36	
3.1.4 Internet shopping	81	14.90	
2nd sub-pillar: Regulation	70	64.68	
3.2.1 Regulatory quality	50	59.33	●
3.2.2 ICT regulatory environment	26	92.94	●
3.2.3 Regulation of emerging technologies	79	35.32	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	57	69.12	
3rd sub-pillar: Inclusion	55	66.36	
3.3.1 E-Participation	80	45.35	
3.3.2 Socioeconomic gap in use of digital payments	72	71.40	
3.3.3 Availability of local online content	57	65.62	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	48	26.30	
B. People pillar	76	41.00	
1st sub-pillar: Individuals	45	51.79	
2.1.1 Mobile broadband internet traffic within the country	102	1.78	○
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	43	71.07	●
2.1.4 Tertiary enrollment	58	35.72	
2.1.5 Adult literacy rate	21	98.61	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	74	42.93	
2.2.1 Firms with website	82	36.39	
2.2.2 GERD financed by business enterprise	48	46.76	
2.2.3 Knowledge intensive employment	37	55.33	●
2.2.4 Annual investment in telecommunication services	109	71.32	○
2.2.5 GERD performed by business enterprise	54	4.85	
3rd sub-pillar: Governments	94	28.26	
2.3.1 Government online services	89	50.57	
2.3.2 Publication and use of open data	79	14.71	
2.3.3 Government promotion of investment in emerging tech	55	41.40	
2.3.4 R&D expenditure by governments and higher education	71	6.37	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	55	68.39	
3.3.5 Rural gap in use of digital payments	4	81.06	●
D. Impact pillar	81	50.58	
1st sub-pillar: Economy	83	22.70	
4.1.1 High-tech and medium-high-tech manufacturing	88	11.02	
4.1.2 High-tech exports	51	16.89	
4.1.3 PCT patent applications	38	9.31	●
4.1.4 Domestic market size	129	24.40	○
4.1.5 Prevalence of gig economy	63	41.57	
4.1.6 ICT services exports	26	33.00	●
2nd sub-pillar: Quality of Life	64	68.94	
4.2.1 Happiness	73	62.67	
4.2.2 Freedom to make life choices	70	71.12	
4.2.3 Income inequality	59	65.83	
4.2.4 Healthy life expectancy at birth	53	76.15	
3rd sub-pillar: SDG Contribution	82	60.11	
4.3.1 SDG 3: Good Health and Well-Being	82	63.72	
4.3.2 SDG 4: Quality Education	52	35.86	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	52	75.14	
4.3.5 SDG 11: Sustainable Cities and Communities	98	47.07	

NOTE: ● a strength and ○ a weakness.

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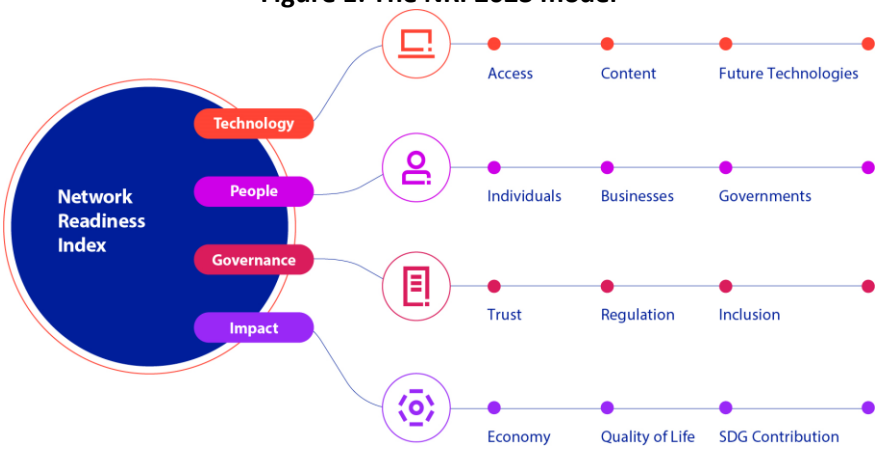
Morocco

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

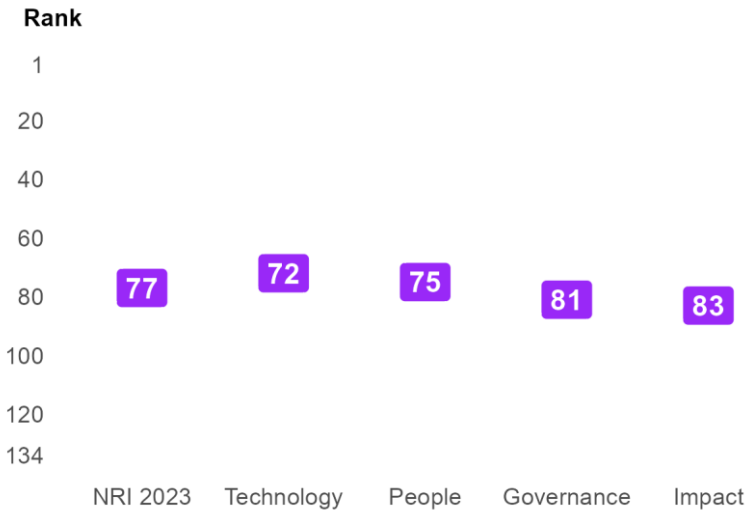
Figure 1: The NRI 2023 model



Global NRI position of Morocco

Morocco ranks 77th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Morocco global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Morocco relate to Regulation, Economy and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Quality of Life and Inclusion sub-pillars.

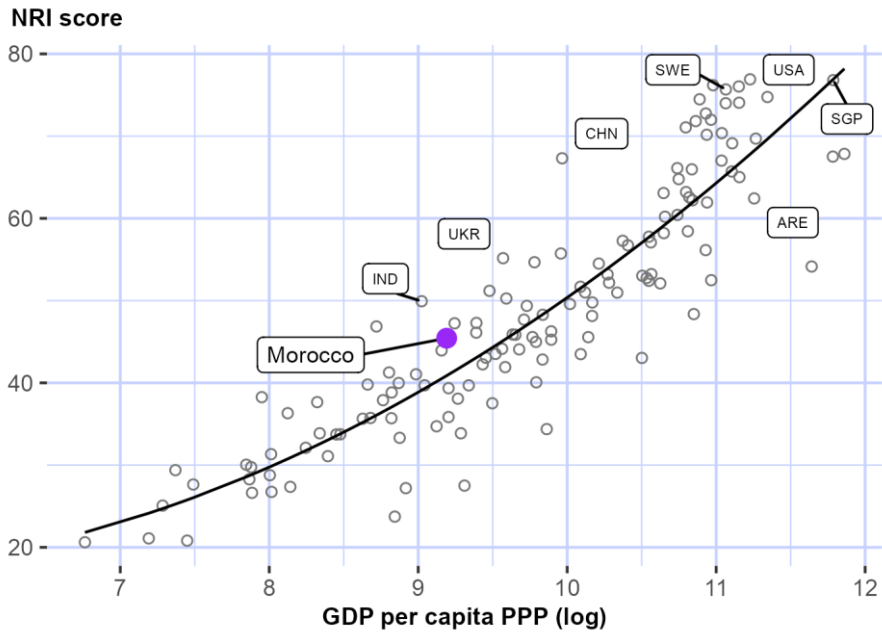
Table 1: Morocco rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	37	Content	71
Economy	55	SDG Contribution	79
Businesses	57	Trust	80
Access	69	Governments	91
Future Technologies	69	Quality of Life	96
Individuals	69	Inclusion	117

NRI score and income

Figure 3 shows the position of Morocco in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Morocco is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Morocco belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Morocco is ranked 7th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Economy, Quality of Life and SDG Contribution.

Arab States

Morocco is ranked 8th within Arab States (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Arab States in five of the twelve sub-pillars: Content, Businesses, Regulation, Economy and SDG Contribution.

Figure 4: Performance of Morocco against its income group and region, overall and by pillar

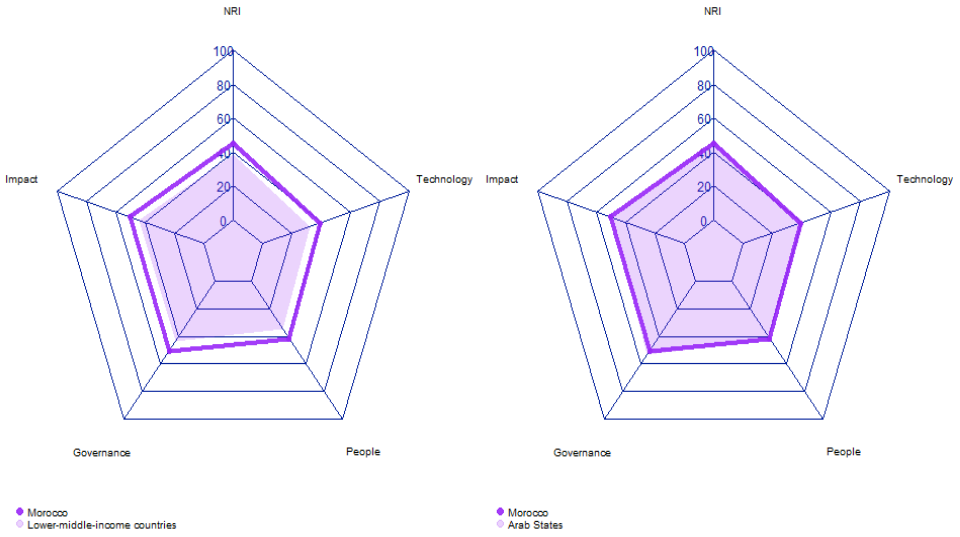


Table 2: Morocco scores vs. averages of its income group and region, overall and by pillar

Dimension	Morocco	Lower-middle-income countries	Arab States
NRI	45.43	38.41	46.59
Technology	39.20	32.12	41.17
People	41.59	34.38	42.66
Governance	50.46	43.27	53.45
Impact	50.47	43.89	49.08

Strongest and weakest indicators

The indicators where Morocco performs particularly well include 3.2.4 E-commerce legislation, 1.1.5 International Internet bandwidth, and 4.1.1 High-tech and medium-high-tech manufacturing (Table 3). By contrast, the economy's weakest indicators include 3.3.5 Rural gap in use of digital payments, 3.1.3 Online access to financial account, 2.2.3 Knowledge intensive employment, and 3.3.1 E-Participation.

Table 3: Highlight of Strengths and Opportunities for Morocco

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.3.2 SDG 4: Quality Education	72
1.1.5 International Internet bandwidth	21	2.2.3 Knowledge intensive employment	111
4.1.1 High-tech and medium-high-tech manufacturing	23	3.3.1 E-Participation	111
2.1.1 Mobile broadband internet traffic within the country	26	3.1.3 Online access to financial account	124
1.2.4 AI scientific publications	27	3.3.5 Rural gap in use of digital payments	126
4.1.6 ICT services exports	29		
4.3.4 SDG 7: Affordable and Clean Energy	40		
1.1.3 FTTH/building Internet subscriptions	43		
3.2.5 Privacy protection by law content	46		
2.2.4 Annual investment in telecommunication services	48		
1.1.4 Population covered by at least a 3G mobile network	50		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Morocco

Network Readiness Index Rank: 77 (out of 134) Score: 45.43

Pillar/sub-pillar	Rank	Score
A. Technology pillar	72	39.20
1st sub-pillar: Access	69	63.79
2nd sub-pillar: Content	71	22.15
3rd sub-pillar: Future Technologies	69	31.66
B. People pillar	75	41.59
1st sub-pillar: Individuals	69	46.80
2nd sub-pillar: Businesses	57	47.60
3rd sub-pillar: Governments	91	30.37

Pillar/sub-pillar	Rank	Score
C. Governance pillar	81	50.46
1st sub-pillar: Trust	80	36.19
2nd sub-pillar: Regulation	37	76.17
3rd sub-pillar: Inclusion	117	39.00
D. Impact pillar	83	50.47
1st sub-pillar: Economy	55	32.19
2nd sub-pillar: Quality of Life	96	58.96
3rd sub-pillar: SDG Contribution	79	60.26

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	72	39.20	
1st sub-pillar: Access	69	63.79	
1.1.1 Mobile tariffs	95	45.02	
1.1.2 Handset prices	80	41.05	
1.1.3 FTTH/building Internet subscriptions	43	36.93	●
1.1.4 Population covered by at least a 3G mobile network	50	99.84	●
1.1.5 International Internet bandwidth	21	80.87	●
1.1.6 Internet access in schools	41	79.02	
2nd sub-pillar: Content	71	22.15	
1.2.1 GitHub commits	85	3.37	
1.2.2 Internet domain registrations	88	1.51	
1.2.3 Mobile apps development	76	63.47	
1.2.4 AI scientific publications	27	20.25	●
3rd sub-pillar: Future Technologies	69	31.66	
1.3.1 Adoption of emerging technologies	91	37.16	
1.3.2 Investment in emerging technologies	82	35.00	

Indicator	Rank	Score	
C. Governance pillar	81	50.46	
1st sub-pillar: Trust	80	36.19	
3.1.1 Secure Internet servers	75	48.60	
3.1.2 Cybersecurity	58	82.10	
3.1.3 Online access to financial account	124	3.56	○
3.1.4 Internet shopping	88	10.50	
2nd sub-pillar: Regulation	37	76.17	
3.2.1 Regulatory quality	78	46.85	
3.2.2 ICT regulatory environment	57	85.29	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	46	72.54	●
3rd sub-pillar: Inclusion	117	39.00	
3.3.1 E-Participation	111	25.58	○
3.3.2 Socioeconomic gap in use of digital payments	111	44.22	
3.3.3 Availability of local online content	68	60.10	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	61	22.82	
B. People pillar	75	41.59	
1st sub-pillar: Individuals	69	46.80	
2.1.1 Mobile broadband internet traffic within the country	26	30.37	●
2.1.2 ICT skills in the education system	47	56.31	
2.1.3 Use of virtual social networks	83	52.69	
2.1.4 Tertiary enrollment	73	27.49	
2.1.5 Adult literacy rate	86	67.14	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	57	47.60	
2.2.1 Firms with website	59	53.03	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	111	8.79	○
2.2.4 Annual investment in telecommunication services	48	80.97	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	91	30.37	
2.3.1 Government online services	102	41.66	
2.3.2 Publication and use of open data	77	16.18	
2.3.3 Government promotion of investment in emerging tech	80	33.27	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	73	65.12	
3.3.5 Rural gap in use of digital payments	126	0.00	○
D. Impact pillar	83	50.47	
1st sub-pillar: Economy	55	32.19	
4.1.1 High-tech and medium-high-tech manufacturing	23	53.43	●
4.1.2 High-tech exports	83	7.71	
4.1.3 PCT patent applications	58	4.53	
4.1.4 Domestic market size	54	56.97	
4.1.5 Prevalence of gig economy	66	39.83	
4.1.6 ICT services exports	29	30.66	●
2nd sub-pillar: Quality of Life	96	58.96	
4.2.1 Happiness	100	41.73	
4.2.2 Freedom to make life choices	75	69.93	
4.2.3 Income inequality	76	59.05	
4.2.4 Healthy life expectancy at birth	89	65.13	
3rd sub-pillar: SDG Contribution	79	60.26	
4.3.1 SDG 3: Good Health and Well-Being	58	72.84	
4.3.2 SDG 4: Quality Education	72	13.80	○
4.3.3 SDG 5: Women's economic opportunity	99	65.49	
4.3.4 SDG 7: Affordable and Clean Energy	40	77.10	●
4.3.5 SDG 11: Sustainable Cities and Communities	53	72.07	

NOTE: ● a strength and ○ a weakness.

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Mozambique

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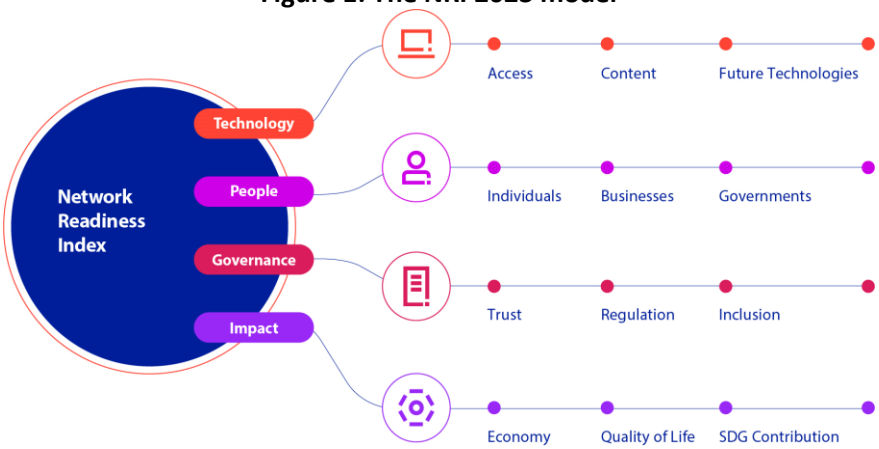
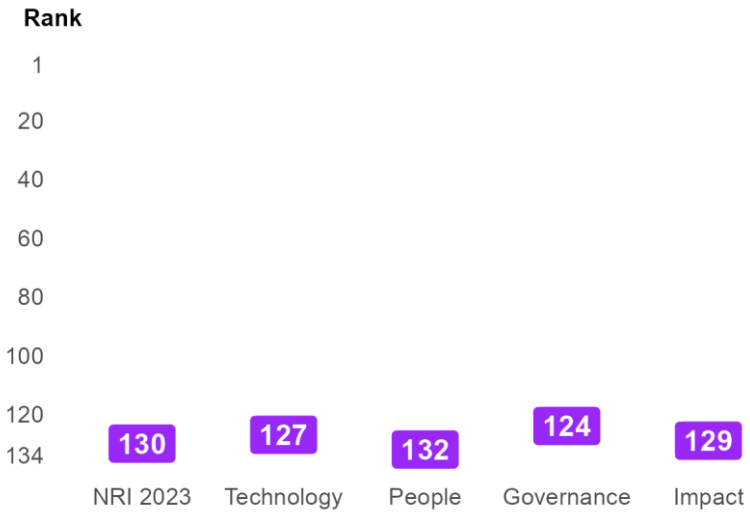
Figure 1: The NRI 2023 model



Global NRI position of Mozambique

Mozambique ranks 130th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Mozambique global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Mozambique relate to Regulation, Trust and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Individuals and Economy sub-pillars.

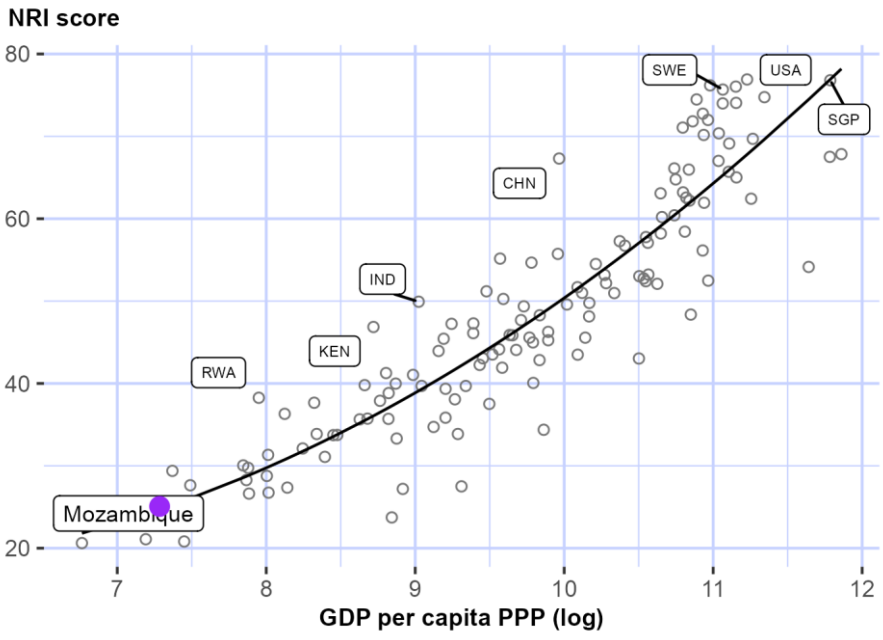
Table 1: Mozambique rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	108	SDG Contribution	125
Trust	113	Future Technologies	127
Quality of Life	120	Businesses	128
Access	122	Governments	128
Content	122	Individuals	129
Inclusion	125	Economy	132

NRI score and income

Figure 3 shows the position of Mozambique in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Mozambique is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Mozambique belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Mozambique is ranked 9th in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in three of the twelve sub-pillars: Access, Trust and Regulation.

Africa

Mozambique is ranked 28th within Africa (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Mozambique against its income group and region, overall and by pillar

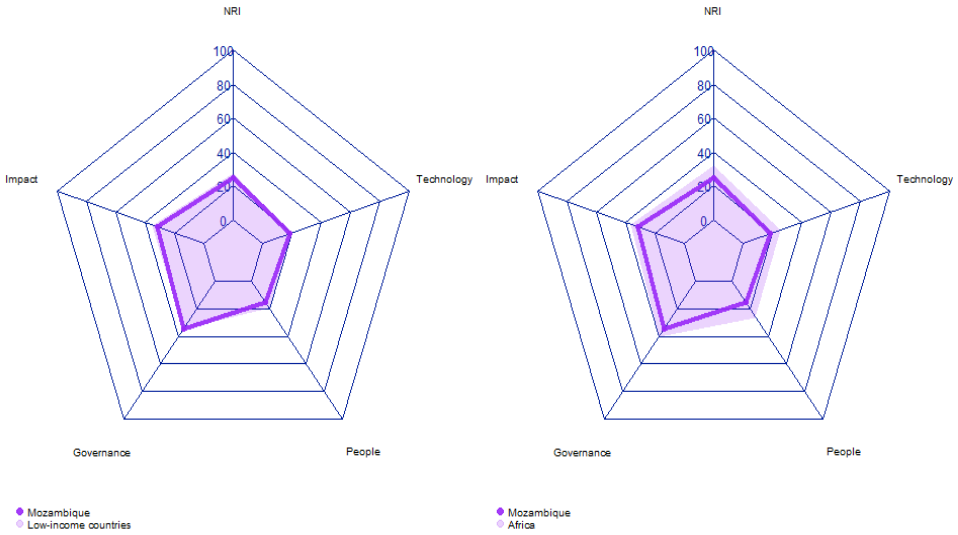


Table 2: Mozambique scores vs. averages of its income group and region, overall and by pillar

Dimension	Mozambique	Low-income countries	Africa
NRI	25.07	27.19	32.14
Technology	18.83	19.75	25.14
People	15.44	19.57	26.19
Governance	34.54	34.61	40.44
Impact	31.48	34.82	36.77

Strongest and weakest indicators

The indicators where Mozambique performs particularly well include 4.2.2 Freedom to make life choices, 3.2.5 Privacy protection by law content, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.2.4 Healthy life expectancy at birth, and 3.3.3 Availability of local online content.

Table 3: Highlight of Strengths and Opportunities for Mozambique

Strongest indicators	Rank	Weakest indicators	Rank
4.2.2 Freedom to make life choices	31	2.2.5 GERD performed by business enterprise	90
3.2.5 Privacy protection by law content	44	4.1.3 PCT patent applications	99
3.1.3 Online access to financial account	54	1.2.3 Mobile apps development	121
3.3.5 Rural gap in use of digital payments	62	3.3.3 Availability of local online content	128
4.3.3 SDG 5: Women's economic opportunity	71	4.2.4 Healthy life expectancy at birth	131
1.2.4 AI scientific publications	74	4.3.4 SDG 7: Affordable and Clean Energy	132
2.3.4 R&D expenditure by governments and higher education	75		
2.2.1 Firms with website	84		
4.2.1 Happiness	95		
4.3.5 SDG 11: Sustainable Cities and Communities	99		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Mozambique

Network Readiness Index Rank: 130 (out of 134) Score: 25.07

Pillar/sub-pillar	Rank	Score
A. Technology pillar	127	18.83
1st sub-pillar: Access	122	39.17
2nd sub-pillar: Content	122	2.32
3rd sub-pillar: Future Technologies	127	15.01
B. People pillar	132	15.44
1st sub-pillar: Individuals	129	14.78
2nd sub-pillar: Businesses	128	19.00
3rd sub-pillar: Governments	128	12.53

Pillar/sub-pillar	Rank	Score
C. Governance pillar	124	34.54
1st sub-pillar: Trust	113	22.27
2nd sub-pillar: Regulation	108	51.12
3rd sub-pillar: Inclusion	125	30.24
D. Impact pillar	129	31.48
1st sub-pillar: Economy	132	9.07
2nd sub-pillar: Quality of Life	120	43.08
3rd sub-pillar: SDG Contribution	125	42.30

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	127	18.83	
1st sub-pillar: Access	122	39.17	
1.1.1 Mobile tariffs	126	11.26	
1.1.2 Handset prices	125	17.33	
1.1.3 FTTH/building Internet subscriptions	100	13.52	
1.1.4 Population covered by at least a 3G mobile network	114	94.47	
1.1.5 International Internet bandwidth	119	59.28	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	122	2.32	
1.2.1 GitHub commits	127	0.29	
1.2.2 Internet domain registrations	123	0.15	
1.2.3 Mobile apps development	121	4.61	○
1.2.4 AI scientific publications	74	4.24	•
3rd sub-pillar: Future Technologies	127	15.01	
1.3.1 Adoption of emerging technologies	119	17.19	
1.3.2 Investment in emerging technologies	108	26.00	

Indicator	Rank	Score	
C. Governance pillar	124	34.54	
1st sub-pillar: Trust	113	22.27	
3.1.1 Secure Internet servers	119	26.92	
3.1.2 Cybersecurity	114	22.85	
3.1.3 Online access to financial account	54	34.30	•
3.1.4 Internet shopping	109	5.00	
2nd sub-pillar: Regulation	108	51.12	
3.2.1 Regulatory quality	113	32.02	
3.2.2 ICT regulatory environment	106	65.88	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	121	33.33	
3.2.5 Privacy protection by law content	44	73.25	•
3rd sub-pillar: Inclusion	125	30.24	
3.3.1 E-Participation	125	17.45	
3.3.2 Socioeconomic gap in use of digital payments	121	38.26	
3.3.3 Availability of local online content	128	18.27	○

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	116	1.84	
B. People pillar	132	15.44	
1st sub-pillar: Individuals	129	14.78	
2.1.1 Mobile broadband internet traffic within the country	109	1.28	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	125	4.69	
2.1.4 Tertiary enrollment	118	3.10	
2.1.5 Adult literacy rate	96	50.05	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	128	19.00	
2.2.1 Firms with website	84	35.58	●
2.2.2 GERD financed by business enterprise	96	0.58	
2.2.3 Knowledge intensive employment	122	1.80	
2.2.4 Annual investment in telecommunication services	121	57.03	
2.2.5 GERD performed by business enterprise	90	0.01	○
3rd sub-pillar: Governments	128	12.53	
2.3.1 Government online services	121	28.86	
2.3.2 Publication and use of open data	100	2.94	
2.3.3 Government promotion of investment in emerging tech	114	12.87	
2.3.4 R&D expenditure by governments and higher education	75	5.46	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	103	11.62	
3.3.5 Rural gap in use of digital payments	62	65.60	●
D. Impact pillar	129	31.48	
1st sub-pillar: Economy	132	9.07	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	113	1.61	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	109	36.75	
4.1.5 Prevalence of gig economy	121	5.52	
4.1.6 ICT services exports	121	1.45	
2nd sub-pillar: Quality of Life	120	43.08	
4.2.1 Happiness	95	44.40	●
4.2.2 Freedom to make life choices	31	84.80	●
4.2.3 Income inequality	112	22.61	
4.2.4 Healthy life expectancy at birth	131	20.48	○
3rd sub-pillar: SDG Contribution	125	42.30	
4.3.1 SDG 3: Good Health and Well-Being	116	30.43	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	71	75.22	●
4.3.4 SDG 7: Affordable and Clean Energy	132	17.05	○
4.3.5 SDG 11: Sustainable Cities and Communities	99	46.50	●

NOTE: ● a strength and ○ a weakness.

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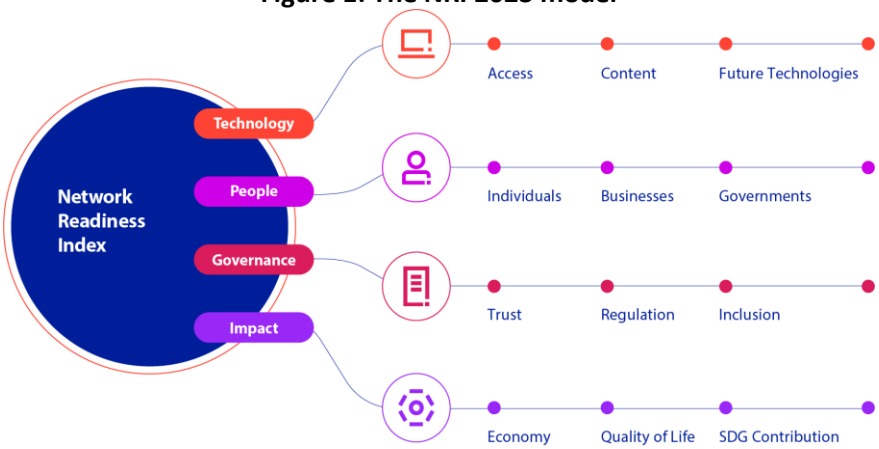
Namibia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

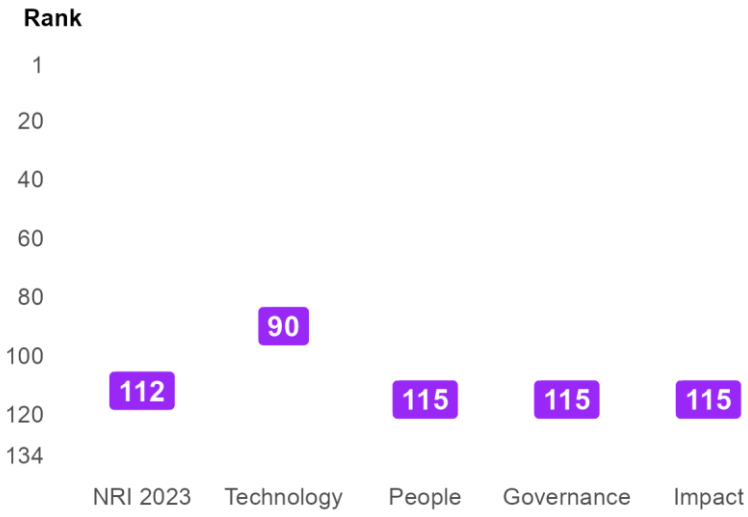
Figure 1: The NRI 2023 model



Global NRI position of Namibia

Namibia ranks 112th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People , Governance and Impact.

Figure 2: Namibia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Namibia relate to Content, SDG Contribution and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Economy and Quality of Life sub-pillars.

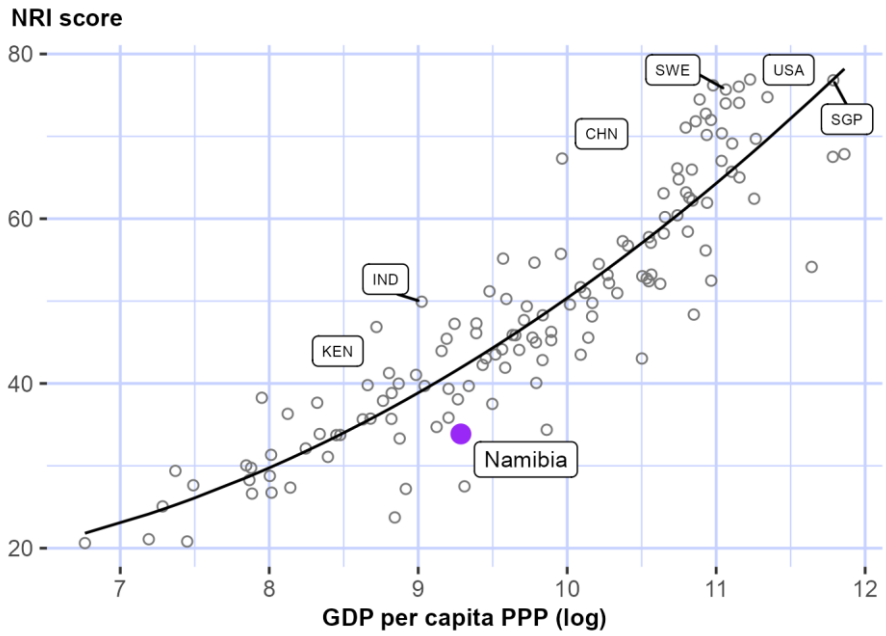
Table 1: Namibia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	55	Inclusion	110
SDG Contribution	71	Governments	111
Future Technologies	79	Access	112
Trust	104	Regulation	120
Individuals	106	Economy	120
Businesses	110	Quality of Life	127

NRI score and income

Figure 3 shows the position of Namibia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Namibia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Namibia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Upper-middle-income countries

Namibia is ranked 34th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in one of the twelve sub-pillars: Content.

Africa

Namibia is ranked 13th within Africa (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Impact. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Trust, Inclusion and SDG Contribution.

Figure 4: Performance of Namibia against its income group and region, overall and by pillar

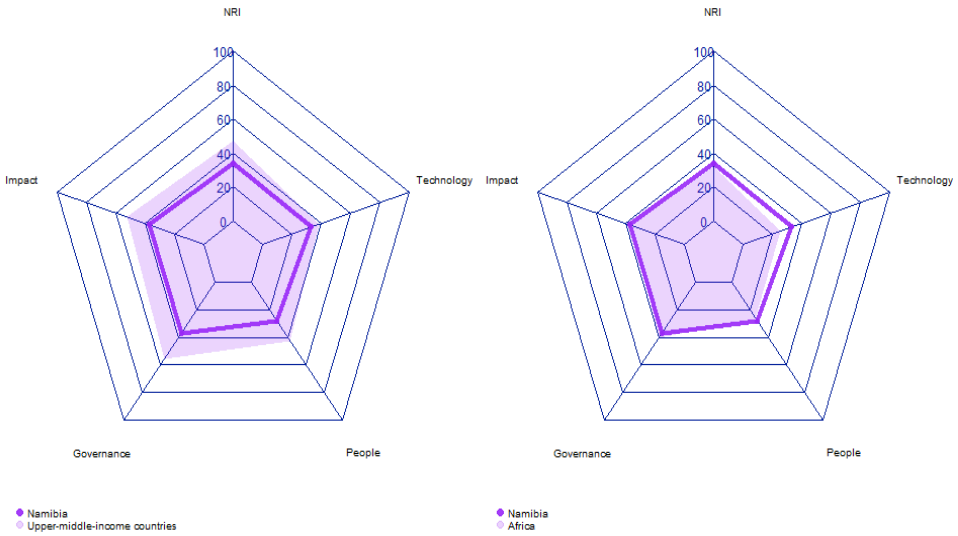


Table 2: Namibia scores vs. averages of its income group and region, overall and by pillar

Dimension	Namibia	Upper-middle-income countries	Africa
NRI	33.87	47.35	32.14
Technology	33.04	38.48	25.14
People	27.83	42.59	26.19
Governance	37.16	55.90	40.44
Impact	37.44	52.43	36.77

Strongest and weakest indicators

The indicators where Namibia performs particularly well include 3.1.3 Online access to financial account, 1.2.3 Mobile apps development, and 4.1.3 PCT patent applications (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 3.2.4 E-commerce legislation, and 3.1.2 Cybersecurity.

Table 3: Highlight of Strengths and Opportunities for Namibia

Strongest indicators	Rank	Weakest indicators	Rank
3.1.3 Online access to financial account	35	4.2.3 Income inequality	115
1.2.3 Mobile apps development	46	2.1.1 Mobile broadband internet traffic within the country	117
4.1.3 PCT patent applications	52	3.1.2 Cybersecurity	127
4.3.4 SDG 7: Affordable and Clean Energy	55	1.1.5 International Internet bandwidth	129
4.3.3 SDG 5: Women's economic opportunity	56	3.2.4 E-commerce legislation	129
1.2.2 Internet domain registrations	60		
2.1.5 Adult literacy rate	61		
4.1.5 Prevalence of gig economy	71		
1.3.1 Adoption of emerging technologies	72		
3.2.1 Regulatory quality	72		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Namibia

Network Readiness Index Rank: 112 (out of 134) Score: 33.87

Pillar/sub-pillar	Rank	Score
A. Technology pillar	90	33.04
1st sub-pillar: Access	112	43.46
2nd sub-pillar: Content	55	26.44
3rd sub-pillar: Future Technologies	79	29.22
B. People pillar	115	27.83
1st sub-pillar: Individuals	106	32.82
2nd sub-pillar: Businesses	110	29.20
3rd sub-pillar: Governments	111	21.45

Pillar/sub-pillar	Rank	Score
C. Governance pillar	115	37.16
1st sub-pillar: Trust	104	28.53
2nd sub-pillar: Regulation	120	40.18
3rd sub-pillar: Inclusion	110	42.78
D. Impact pillar	115	37.44
1st sub-pillar: Economy	120	13.58
2nd sub-pillar: Quality of Life	127	37.23
3rd sub-pillar: SDG Contribution	71	61.51

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	90	33.04	
1st sub-pillar: Access	112	43.46	
1.1.1 Mobile tariffs	109	32.20	
1.1.2 Handset prices	97	33.11	
1.1.3 FTTH/building Internet subscriptions	118	4.97	
1.1.4 Population covered by at least a 3G mobile network	107	96.09	
1.1.5 International Internet bandwidth	129	50.93	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	55	26.44	
1.2.1 GitHub commits	93	2.68	
1.2.2 Internet domain registrations	60	4.97	●
1.2.3 Mobile apps development	46	71.66	●
1.2.4 AI scientific publications	NA	NA	
3rd sub-pillar: Future Technologies	79	29.22	
1.3.1 Adoption of emerging technologies	72	44.52	●
1.3.2 Investment in emerging technologies	84	34.75	

Indicator	Rank	Score	
C. Governance pillar	115	37.16	
1st sub-pillar: Trust	104	28.53	
3.1.1 Secure Internet servers	89	42.98	
3.1.2 Cybersecurity	127	9.91	○
3.1.3 Online access to financial account	35	48.77	●
3.1.4 Internet shopping	85	12.48	
2nd sub-pillar: Regulation	120	40.18	
3.2.1 Regulatory quality	72	49.50	●
3.2.2 ICT regulatory environment	88	72.59	
3.2.3 Regulation of emerging technologies	84	32.47	
3.2.4 E-commerce legislation	129	0.00	○
3.2.5 Privacy protection by law content	105	46.33	
3rd sub-pillar: Inclusion	110	42.78	
3.3.1 E-Participation	115	23.26	
3.3.2 Socioeconomic gap in use of digital payments	101	53.45	
3.3.3 Availability of local online content	102	37.74	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	92	8.39	
B. People pillar		115	27.83	
1st sub-pillar: Individuals		106	32.82	
2.1.1	Mobile broadband internet traffic within the country	117	0.39	○
2.1.2	ICT skills in the education system	NA	NA	
2.1.3	Use of virtual social networks	104	24.93	
2.1.4	Tertiary enrollment	88	16.56	
2.1.5	Adult literacy rate	61	89.42	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		110	29.20	
2.2.1	Firms with website	86	34.54	
2.2.2	GERD financed by business enterprise	73	13.73	
2.2.3	Knowledge intensive employment	77	24.97	
2.2.4	Annual investment in telecommunication services	105	71.75	
2.2.5	GERD performed by business enterprise	74	1.01	
3rd sub-pillar: Governments		111	21.45	
2.3.1	Government online services	109	37.18	
2.3.2	Publication and use of open data	91	8.82	
2.3.3	Government promotion of investment in emerging tech	77	33.69	
2.3.4	R&D expenditure by governments and higher education	72	6.12	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	77	56.68	
D. Impact pillar		115	37.44	
1st sub-pillar: Economy		120	13.58	
4.1.1	High-tech and medium-high-tech manufacturing	100	3.72	
4.1.2	High-tech exports	122	0.62	
4.1.3	PCT patent applications	52	5.60	●
4.1.4	Domestic market size	127	30.90	
4.1.5	Prevalence of gig economy	71	37.50	●
4.1.6	ICT services exports	105	3.11	
2nd sub-pillar: Quality of Life		127	37.23	
4.2.1	Happiness	91	48.29	
4.2.2	Freedom to make life choices	111	51.26	
4.2.3	Income inequality	115	9.80	○
4.2.4	Healthy life expectancy at birth	116	39.57	
3rd sub-pillar: SDG Contribution		71	61.51	
4.3.1	SDG 3: Good Health and Well-Being	94	54.58	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	56	80.53	●
4.3.4	SDG 7: Affordable and Clean Energy	55	74.49	●
4.3.5	SDG 11: Sustainable Cities and Communities	116	36.42	

NOTE: ● a strength and ○ a weakness.

Sources

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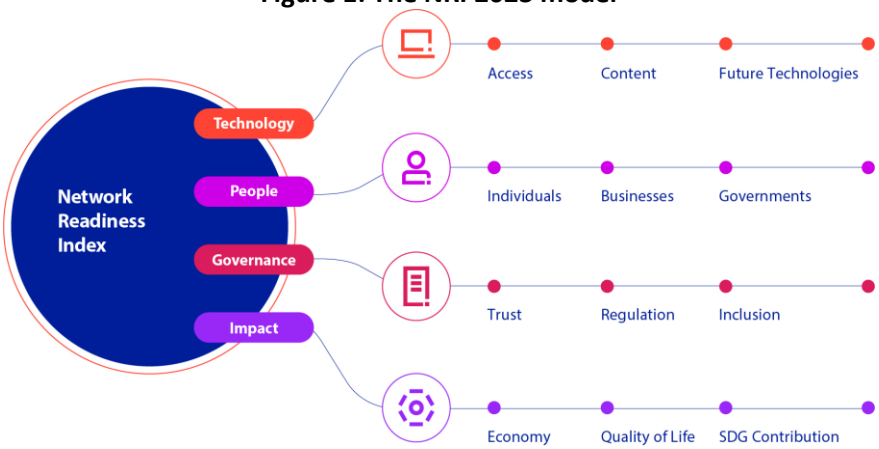
Nepal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

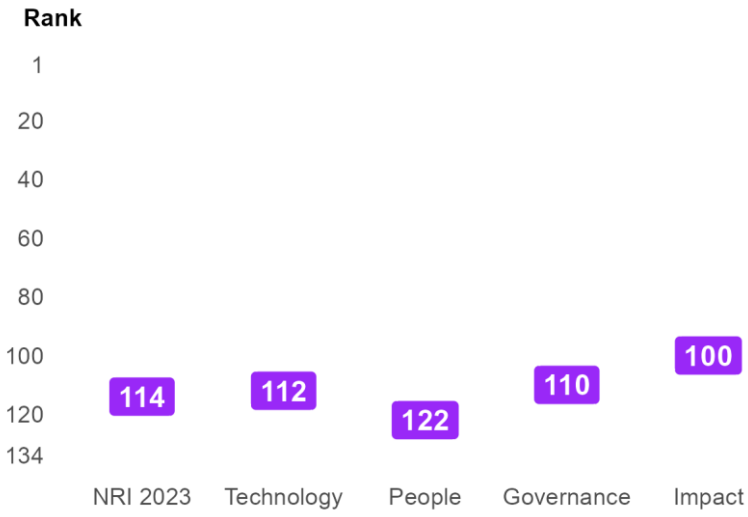
Figure 1: The NRI 2023 model



Global NRI position of Nepal

Nepal ranks 114th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Nepal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Nepal relate to Content, Quality of Life and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Future Technologies and Businesses sub-pillars.

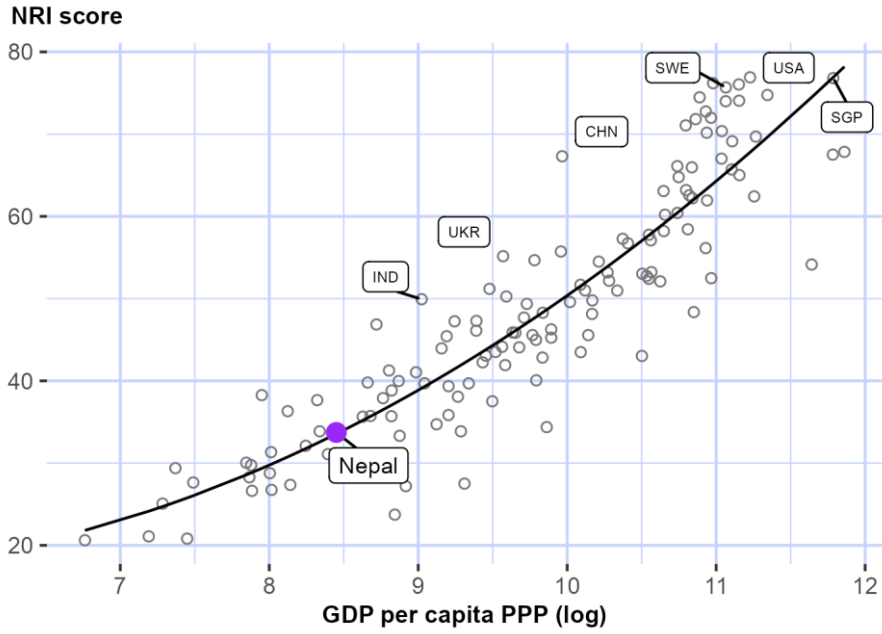
Table 1: Nepal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	74	Inclusion	109
Quality of Life	81	Individuals	111
Governments	100	Regulation	113
Economy	101	Access	116
Trust	107	Future Technologies	116
SDG Contribution	107	Businesses	130

NRI score and income

Figure 3 shows the position of Nepal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Nepal is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Nepal belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Nepal is ranked 31st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Content and Quality of Life.

Asia & Pacific

Nepal is ranked 21st within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Nepal against its income group and region, overall and by pillar

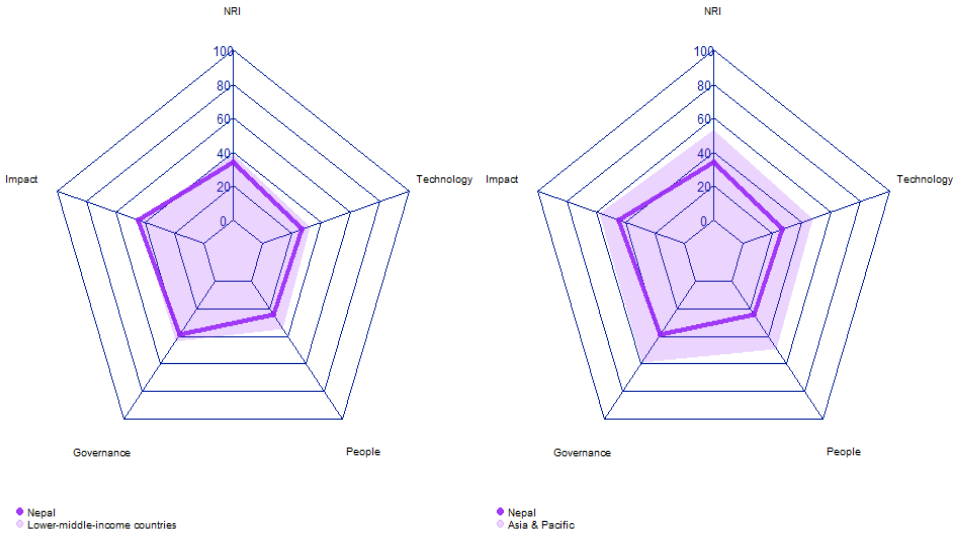


Table 2: Nepal scores vs. averages of its income group and region, overall and by pillar

Dimension	Nepal	Lower-middle-income countries	Asia & Pacific
NRI	33.73	38.41	53.28
Technology	27.04	32.12	47.34
People	24.37	34.38	48.95
Governance	38.79	43.27	59.22
Impact	44.71	43.89	57.62

Strongest and weakest indicators

The indicators where Nepal performs particularly well include 3.2.4 E-commerce legislation, 1.2.3 Mobile apps development, and 1.2.4 AI scientific publications (Table 3). By contrast, the economy's weakest indicators include 1.1.4 Population covered by at least a 3G mobile network, 3.2.2 ICT regulatory environment, and 1.1.2 Handset prices.

Table 3: Highlight of Strengths and Opportunities for Nepal

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.2.3 Regulation of emerging technologies	113
1.2.3 Mobile apps development	45	2.1.1 Mobile broadband internet traffic within the country	115
1.2.4 AI scientific publications	48	1.1.2 Handset prices	126
1.1.3 FTTH/building Internet subscriptions	55	3.2.2 ICT regulatory environment	127
4.2.2 Freedom to make life choices	55	1.1.4 Population covered by at least a 3G mobile network	129
3.3.5 Rural gap in use of digital payments	67		
4.1.6 ICT services exports	74		
1.2.1 GitHub commits	79		
4.1.4 Domestic market size	79		
1.1.1 Mobile tariffs	80		
4.3.3 SDG 5: Women's economic opportunity	80		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Nepal

Network Readiness Index Rank: 114 (out of 134) Score: 33.73

Pillar/sub-pillar	Rank	Score
A. Technology pillar	112	27.04
1st sub-pillar: Access	116	41.04
2nd sub-pillar: Content	74	21.67
3rd sub-pillar: Future Technologies	116	18.41
B. People pillar	122	24.37
1st sub-pillar: Individuals	111	28.72
2nd sub-pillar: Businesses	130	18.13
3rd sub-pillar: Governments	100	26.26

Pillar/sub-pillar	Rank	Score
C. Governance pillar	110	38.79
1st sub-pillar: Trust	107	24.33
2nd sub-pillar: Regulation	113	49.14
3rd sub-pillar: Inclusion	109	42.89
D. Impact pillar	100	44.71
1st sub-pillar: Economy	101	18.33
2nd sub-pillar: Quality of Life	81	64.50
3rd sub-pillar: SDG Contribution	107	51.30

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	112	27.04	
1st sub-pillar: Access	116	41.04	
1.1.1 Mobile tariffs	80	54.00	●
1.1.2 Handset prices	126	15.01	○
1.1.3 FTTH/building Internet subscriptions	55	31.48	●
1.1.4 Population covered by at least a 3G mobile network	129	74.75	○
1.1.5 International Internet bandwidth	94	66.48	
1.1.6 Internet access in schools	80	4.53	
2nd sub-pillar: Content	74	21.67	
1.2.1 GitHub commits	79	4.19	●
1.2.2 Internet domain registrations	96	1.05	
1.2.3 Mobile apps development	45	71.84	●
1.2.4 AI scientific publications	48	9.59	●
3rd sub-pillar: Future Technologies	116	18.41	
1.3.1 Adoption of emerging technologies	108	27.45	
1.3.2 Investment in emerging technologies	107	26.25	

Indicator	Rank	Score	
C. Governance pillar	110	38.79	
1st sub-pillar: Trust	107	24.33	
3.1.1 Secure Internet servers	90	42.57	
3.1.2 Cybersecurity	98	44.02	
3.1.3 Online access to financial account	118	6.34	
3.1.4 Internet shopping	111	4.38	
2nd sub-pillar: Regulation	113	49.14	
3.2.1 Regulatory quality	104	35.67	
3.2.2 ICT regulatory environment	127	54.12	○
3.2.3 Regulation of emerging technologies	113	5.71	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	96	50.19	
3rd sub-pillar: Inclusion	109	42.89	
3.3.1 E-Participation	120	22.09	
3.3.2 Socioeconomic gap in use of digital payments	103	52.44	
3.3.3 Availability of local online content	107	34.38	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	119	1.53	
B. People pillar		122	24.37	
1st sub-pillar: Individuals		111	28.72	
2.1.1	Mobile broadband internet traffic within the country	115	0.55	○
2.1.2	ICT skills in the education system	84	35.12	
2.1.3	Use of virtual social networks	99	37.44	
2.1.4	Tertiary enrollment	102	9.88	
2.1.5	Adult literacy rate	92	60.61	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		130	18.13	
2.2.1	Firms with website	97	19.18	
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	95	17.08	
2.2.4	Annual investment in telecommunication services	NA	NA	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		100	26.26	
2.3.1	Government online services	106	40.23	
2.3.2	Publication and use of open data	79	14.71	
2.3.3	Government promotion of investment in emerging tech	101	23.84	
2.3.4	R&D expenditure by governments and higher education	NA	NA	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	67	62.65	●
D. Impact pillar		100	44.71	
1st sub-pillar: Economy		101	18.33	
4.1.1	High-tech and medium-high-tech manufacturing	92	9.58	
4.1.2	High-tech exports	110	1.70	
4.1.3	PCT patent applications	NA	NA	
4.1.4	Domestic market size	79	47.74	●
4.1.5	Prevalence of gig economy	107	22.09	
4.1.6	ICT services exports	74	10.53	●
2nd sub-pillar: Quality of Life		81	64.50	
4.2.1	Happiness	80	58.06	
4.2.2	Freedom to make life choices	55	78.17	●
4.2.3	Income inequality	NA	NA	
4.2.4	Healthy life expectancy at birth	99	57.28	
3rd sub-pillar: SDG Contribution		107	51.30	
4.3.1	SDG 3: Good Health and Well-Being	108	40.67	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	80	72.57	●
4.3.4	SDG 7: Affordable and Clean Energy	111	53.54	
4.3.5	SDG 11: Sustainable Cities and Communities	113	38.42	

NOTE: ● a strength and ○ a weakness.

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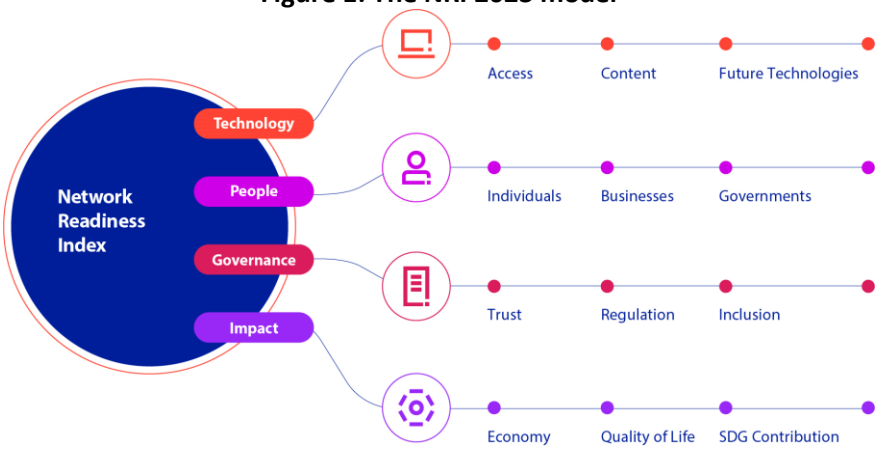
Netherlands

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

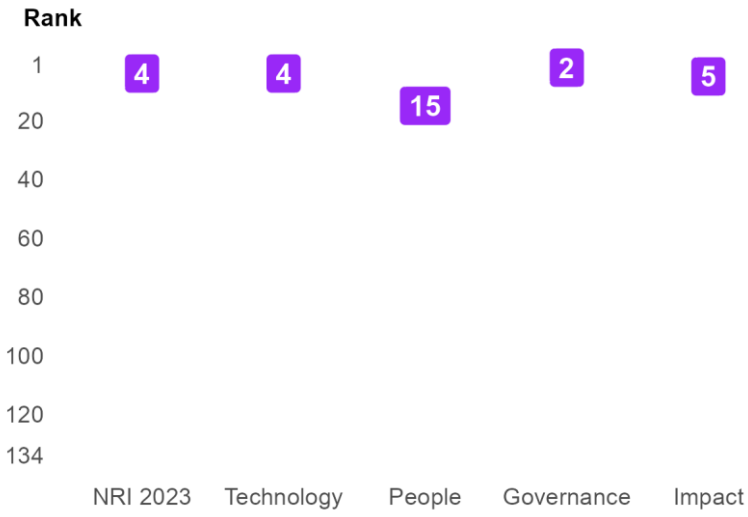
Figure 1: The NRI 2023 model



Global NRI position of Netherlands

Netherlands ranks 4th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Netherlands global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Netherlands relate to Inclusion, Trust and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Access and Individuals sub-pillars.

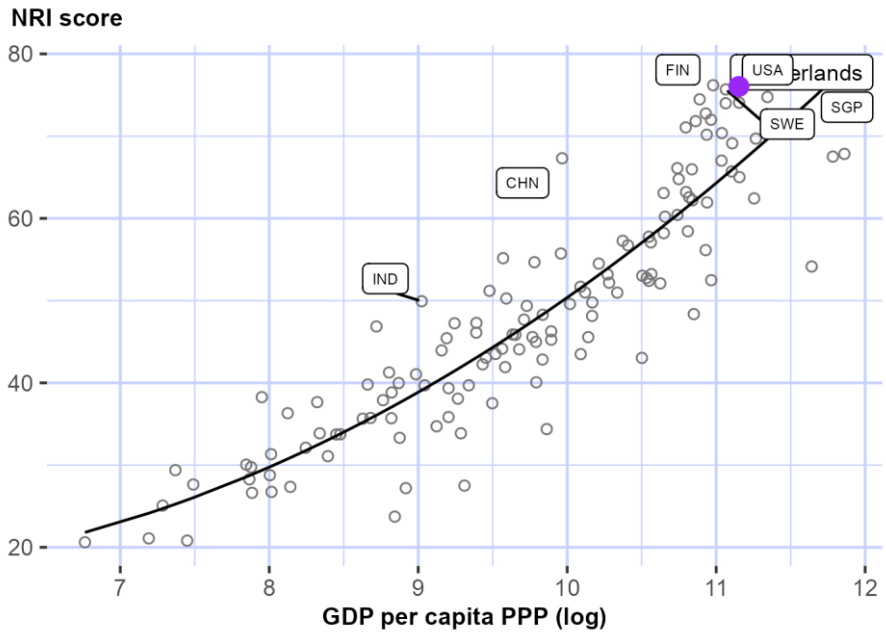
Table 1: Netherlands rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	2	Quality of Life	7
Trust	3	Economy	8
Content	4	Businesses	10
Regulation	5	Governments	14
SDG Contribution	5	Access	19
Future Technologies	6	Individuals	57

NRI score and income

Figure 3 shows the position of Netherlands in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Netherlands is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Netherlands belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Netherlands is ranked 4th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Netherlands is ranked 2nd within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Netherlands against its income group and region, overall and by pillar

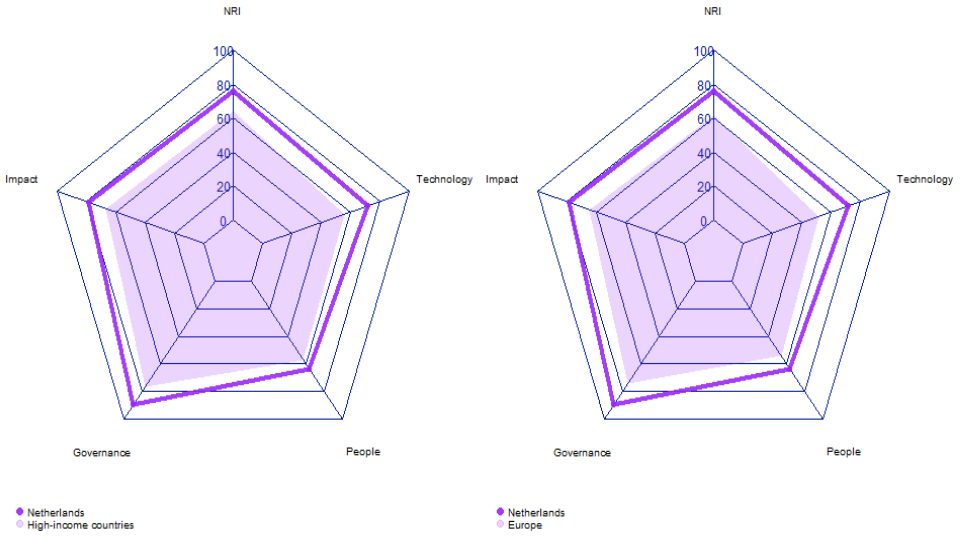


Table 2: Netherlands scores vs. averages of its income group and region, overall and by pillar

Dimension	Netherlands	High-income countries	Europe
NRI	76.04	64.07	61.25
Technology	71.59	55.76	51.90
People	64.09	56.99	54.16
Governance	89.74	76.81	74.33
Impact	78.74	66.73	64.61

Strongest and weakest indicators

The indicators where Netherlands performs particularly well include 1.1.6 Internet access in schools, 1.2.2 Internet domain registrations, and 1.3.1 Adoption of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 3.3.4 Gender gap in Internet use, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Netherlands

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.6 AI talent concentration	32
1.2.2 Internet domain registrations	1	1.1.3 FTTH/building Internet subscriptions	50
1.3.1 Adoption of emerging technologies	1	1.1.4 Population covered by at least a 3G mobile network	57
3.2.4 E-commerce legislation	1	3.3.4 Gender gap in Internet use	61
4.3.3 SDG 5: Women's economic opportunity	1		
2.2.1 Firms with website	3		
3.1.1 Secure Internet servers	3		
3.3.3 Availability of local online content	3		
4.1.5 Prevalence of gig economy	3		
2.2.3 Knowledge intensive employment	4		
1.3.2 Investment in emerging technologies	5		
3.1.3 Online access to financial account	5		
3.3.1 E-Participation	5		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Netherlands

Network Readiness Index — Rank: 4 (out of 134) — Score: 76.04

Pillar/sub-pillar	Rank	Score
A. Technology pillar	4	71.59
1st sub-pillar: Access	19	76.52
2nd sub-pillar: Content	4	67.29
3rd sub-pillar: Future Technologies	6	70.96
B. People pillar	15	64.09
1st sub-pillar: Individuals	57	49.28
2nd sub-pillar: Businesses	10	74.77
3rd sub-pillar: Governments	14	68.21

Pillar/sub-pillar	Rank	Score
C. Governance pillar	2	89.74
1st sub-pillar: Trust	3	91.89
2nd sub-pillar: Regulation	5	90.62
3rd sub-pillar: Inclusion	2	86.72
D. Impact pillar	5	78.74
1st sub-pillar: Economy	8	59.63
2nd sub-pillar: Quality of Life	7	89.97
3rd sub-pillar: SDG Contribution	5	86.62

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	4	71.59	
1st sub-pillar: Access	19	76.52	
1.1.1 Mobile tariffs	25	81.85	
1.1.2 Handset prices	35	67.46	
1.1.3 FTTH/building Internet subscriptions	50	33.92	○
1.1.4 Population covered by at least a 3G mobile network	57	99.67	○
1.1.5 International Internet bandwidth	38	76.25	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	4	67.29	
1.2.1 GitHub commits	9	76.40	
1.2.2 Internet domain registrations	1	100.00	●
1.2.3 Mobile apps development	33	73.74	
1.2.4 AI scientific publications	29	19.02	
3rd sub-pillar: Future Technologies	6	70.96	
1.3.1 Adoption of emerging technologies	1	100.00	●
1.3.2 Investment in emerging technologies	5	87.75	●
1.3.3 Robot density	12	33.87	

Indicator	Rank	Score	
C. Governance pillar	2	89.74	
1st sub-pillar: Trust	3	91.89	
3.1.1 Secure Internet servers	3	94.37	●
3.1.2 Cybersecurity	22	97.00	
3.1.3 Online access to financial account	5	89.01	●
3.1.4 Internet shopping	8	87.19	
2nd sub-pillar: Regulation	5	90.62	
3.2.1 Regulatory quality	7	89.19	
3.2.2 ICT regulatory environment	21	93.53	
3.2.3 Regulation of emerging technologies	11	81.56	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	12	88.81	
3rd sub-pillar: Inclusion	2	86.72	
3.3.1 E-Participation	5	96.51	●
3.3.2 Socioeconomic gap in use of digital payments	18	96.46	
3.3.3 Availability of local online content	3	97.12	●
3.3.4 Gender gap in Internet use	61	67.67	○

Indicator	Rank	Score	
1.3.4 Computer software spending	11	62.21	
B. People pillar	15	64.09	
1st sub-pillar: Individuals	57	49.28	
2.1.1 Mobile broadband internet traffic within the country	44	17.58	
2.1.2 ICT skills in the education system	22	73.06	
2.1.3 Use of virtual social networks	9	83.48	
2.1.4 Tertiary enrollment	11	60.27	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	32	12.02	○
2nd sub-pillar: Businesses	10	74.77	
2.2.1 Firms with website	3	95.67	●
2.2.2 GERD financed by business enterprise	18	70.37	
2.2.3 Knowledge intensive employment	4	82.91	●
2.2.4 Annual investment in telecommunication services	22	85.91	
2.2.5 GERD performed by business enterprise	16	39.00	
3rd sub-pillar: Governments	14	68.21	
2.3.1 Government online services	11	89.24	
2.3.2 Publication and use of open data	10	76.47	
2.3.3 Government promotion of investment in emerging tech	21	66.64	
2.3.4 R&D expenditure by governments and higher education	15	40.48	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	21	75.85	
D. Impact pillar	5	78.74	
1st sub-pillar: Economy	8	59.63	
4.1.1 High-tech and medium-high-tech manufacturing	15	59.34	
4.1.2 High-tech exports	19	39.57	
4.1.3 PCT patent applications	9	64.91	
4.1.4 Domestic market size	27	68.94	
4.1.5 Prevalence of gig economy	3	90.12	●
4.1.6 ICT services exports	24	34.91	
2nd sub-pillar: Quality of Life	7	89.97	
4.2.1 Happiness	6	93.69	
4.2.2 Freedom to make life choices	40	82.14	
4.2.3 Income inequality	5	92.96	
4.2.4 Healthy life expectancy at birth	14	91.09	
3rd sub-pillar: SDG Contribution	5	86.62	
4.3.1 SDG 3: Good Health and Well-Being	9	94.99	
4.3.2 SDG 4: Quality Education	15	68.74	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	38	77.31	
4.3.5 SDG 11: Sustainable Cities and Communities	17	92.05	

NOTE: ● a strength and ○ a weakness.

Sources

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New Zealand

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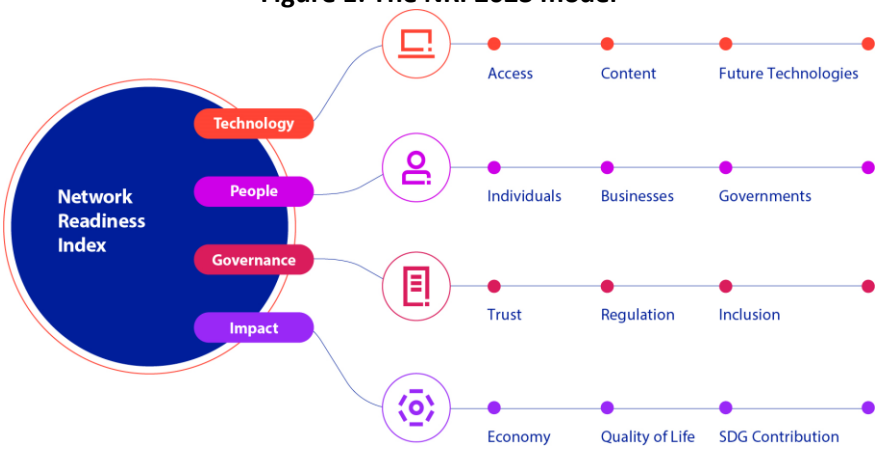
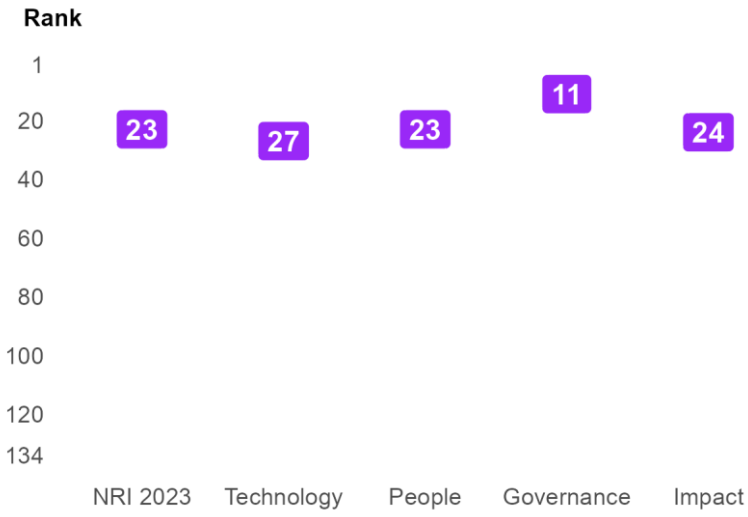
Figure 1: The NRI 2023 model



Global NRI position of New Zealand

New Zealand ranks 23rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: New Zealand global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of New Zealand relate to Inclusion, Trust and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Access and Individuals sub-pillars.

Table 1: New Zealand rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	9	Content	22
Trust	11	Businesses	24
Governments	17	Economy	36
Quality of Life	17	Future Technologies	37
SDG Contribution	18	Access	45
Regulation	19	Individuals	77

NRI score and income

Figure 3 shows the position of New Zealand in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, New Zealand is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)

Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). New Zealand belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

New Zealand is ranked 22nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms high-income countries in eight of the twelve sub-pillars: Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Asia & Pacific

New Zealand is ranked 6th within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of New Zealand against its income group and region, overall and by pillar

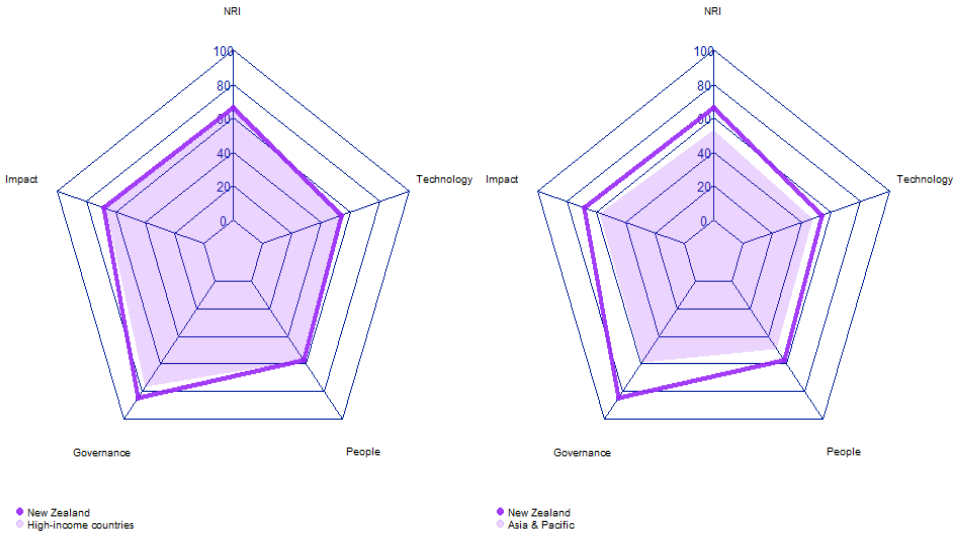


Table 2: New Zealand scores vs. averages of its income group and region, overall and by pillar

Dimension	New Zealand	High-income countries	Asia & Pacific
NRI	65.96	64.07	53.28
Technology	53.79	55.76	47.34
People	57.45	56.99	48.95
Governance	84.47	76.81	59.22
Impact	68.14	66.73	57.62

Strongest and weakest indicators

The indicators where New Zealand performs particularly well include 3.2.4 E-commerce legislation, 2.3.1 Government online services, and 3.1.3 Online access to financial account (Table 3). By contrast, the economy's weakest indicators include 2.1.1 Mobile broadband internet traffic within the country, 4.1.1 High-tech and medium-high-tech manufacturing, and 2.1.6 AI talent concentration.

Table 3: Highlight of Strengths and Opportunities for New Zealand

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	33
2.3.1 Government online services	6	2.1.6 AI talent concentration	41
3.1.3 Online access to financial account	6	4.1.1 High-tech and medium-high-tech manufacturing	73
3.2.1 Regulatory quality	6	2.1.1 Mobile broadband internet traffic within the country	85
3.3.1 E-Participation	6		
2.3.2 Publication and use of open data	7		
3.1.4 Internet shopping	7		
2.1.2 ICT skills in the education system	9		
4.2.1 Happiness	14		
4.3.1 SDG 3: Good Health and Well-Being	14		
1.2.2 Internet domain registrations	15		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: New Zealand

Network Readiness Index Rank: 23 (out of 134) Score: 65.96

Pillar/sub-pillar	Rank	Score
A. Technology pillar	27	53.79
1st sub-pillar: Access	45	71.38
2nd sub-pillar: Content	22	45.65
3rd sub-pillar: Future Technologies	37	44.33
B. People pillar	23	57.45
1st sub-pillar: Individuals	77	44.35
2nd sub-pillar: Businesses	24	62.92
3rd sub-pillar: Governments	17	65.09

Pillar/sub-pillar	Rank	Score
C. Governance pillar	11	84.47
1st sub-pillar: Trust	11	84.58
2nd sub-pillar: Regulation	19	84.02
3rd sub-pillar: Inclusion	9	84.81
D. Impact pillar	24	68.14
1st sub-pillar: Economy	36	37.34
2nd sub-pillar: Quality of Life	17	82.99
3rd sub-pillar: SDG Contribution	18	84.11

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	27	53.79	
1st sub-pillar: Access	45	71.38	
1.1.1 Mobile tariffs	37	75.86	
1.1.2 Handset prices	17	78.59	
1.1.3 FTTH/building Internet subscriptions	53	31.89	
1.1.4 Population covered by at least a 3G mobile network	71	99.52	
1.1.5 International Internet bandwidth	64	71.05	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	22	45.65	
1.2.1 GitHub commits	22	53.04	
1.2.2 Internet domain registrations	15	50.59	•
1.2.3 Mobile apps development	50	70.86	
1.2.4 AI scientific publications	54	8.09	
3rd sub-pillar: Future Technologies	37	44.33	
1.3.1 Adoption of emerging technologies	18	77.97	
1.3.2 Investment in emerging technologies	19	68.50	

Indicator	Rank	Score	
C. Governance pillar	11	84.47	
1st sub-pillar: Trust	11	84.58	
3.1.1 Secure Internet servers	35	79.23	
3.1.2 Cybersecurity	56	83.76	
3.1.3 Online access to financial account	6	86.73	•
3.1.4 Internet shopping	7	88.60	•
2nd sub-pillar: Regulation	19	84.02	
3.2.1 Regulatory quality	6	90.45	•
3.2.2 ICT regulatory environment	38	88.82	
3.2.3 Regulation of emerging technologies	19	76.36	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	65	64.46	
3rd sub-pillar: Inclusion	9	84.81	
3.3.1 E-Participation	6	95.34	•
3.3.2 Socioeconomic gap in use of digital payments	24	94.64	
3.3.3 Availability of local online content	17	86.54	

Indicator	Rank	Score	
1.3.3 Robot density	33	7.46	○
1.3.4 Computer software spending	55	23.40	
B. People pillar	23	57.45	
1st sub-pillar: Individuals	77	44.35	
2.1.1 Mobile broadband internet traffic within the country	85	4.76	○
2.1.2 ICT skills in the education system	9	82.59	●
2.1.3 Use of virtual social networks	27	76.93	
2.1.4 Tertiary enrollment	24	52.10	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	41	5.36	○
2nd sub-pillar: Businesses	24	62.92	
2.2.1 Firms with website	14	84.64	
2.2.2 GERD financed by business enterprise	30	61.78	
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	36	82.99	
2.2.5 GERD performed by business enterprise	27	22.25	
3rd sub-pillar: Governments	17	65.09	
2.3.1 Government online services	6	95.35	●
2.3.2 Publication and use of open data	7	88.24	●
2.3.3 Government promotion of investment in emerging tech	36	51.63	
2.3.4 R&D expenditure by governments and higher education	31	25.13	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	19	73.57	
3.3.5 Rural gap in use of digital payments	33	73.94	
D. Impact pillar	24	68.14	
1st sub-pillar: Economy	36	37.34	
4.1.1 High-tech and medium-high-tech manufacturing	73	18.56	○
4.1.2 High-tech exports	30	29.24	
4.1.3 PCT patent applications	21	36.02	
4.1.4 Domestic market size	61	53.82	
4.1.5 Prevalence of gig economy	15	70.35	
4.1.6 ICT services exports	61	16.03	
2nd sub-pillar: Quality of Life	17	82.99	
4.2.1 Happiness	14	85.98	●
4.2.2 Freedom to make life choices	61	75.91	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	27	87.07	
3rd sub-pillar: SDG Contribution	18	84.11	
4.3.1 SDG 3: Good Health and Well-Being	14	93.74	●
4.3.2 SDG 4: Quality Education	13	68.92	
4.3.3 SDG 5: Women's economic opportunity	15	96.46	
4.3.4 SDG 7: Affordable and Clean Energy	73	69.94	
4.3.5 SDG 11: Sustainable Cities and Communities	20	91.47	

NOTE: ● a strength and ○ a weakness.

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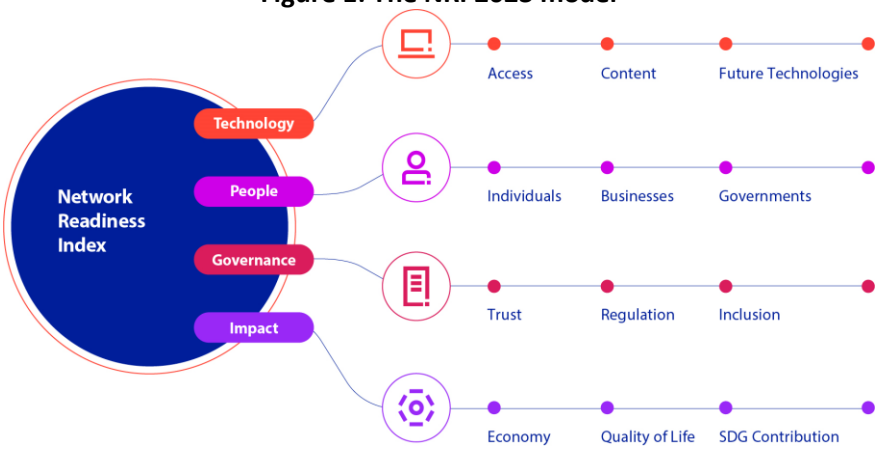
Nicaragua

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

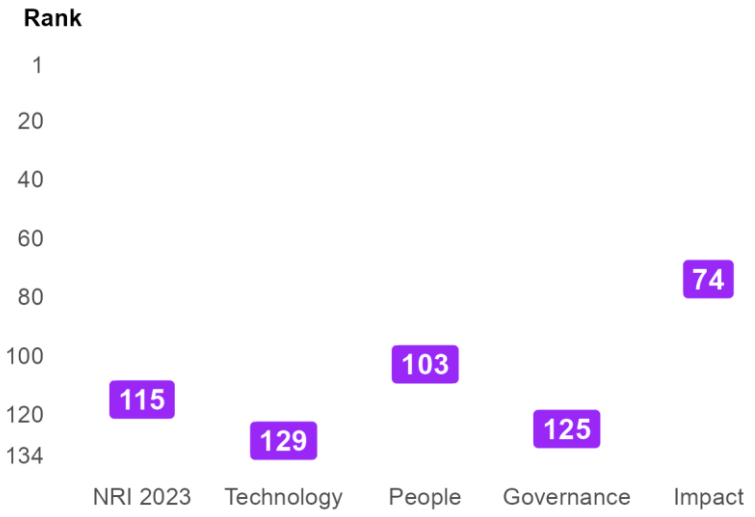
Figure 1: The NRI 2023 model



Global NRI position of Nicaragua

Nicaragua ranks 115th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Nicaragua global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Nicaragua relate to SDG Contribution, Quality of Life and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Trust and Future Technologies sub-pillars.

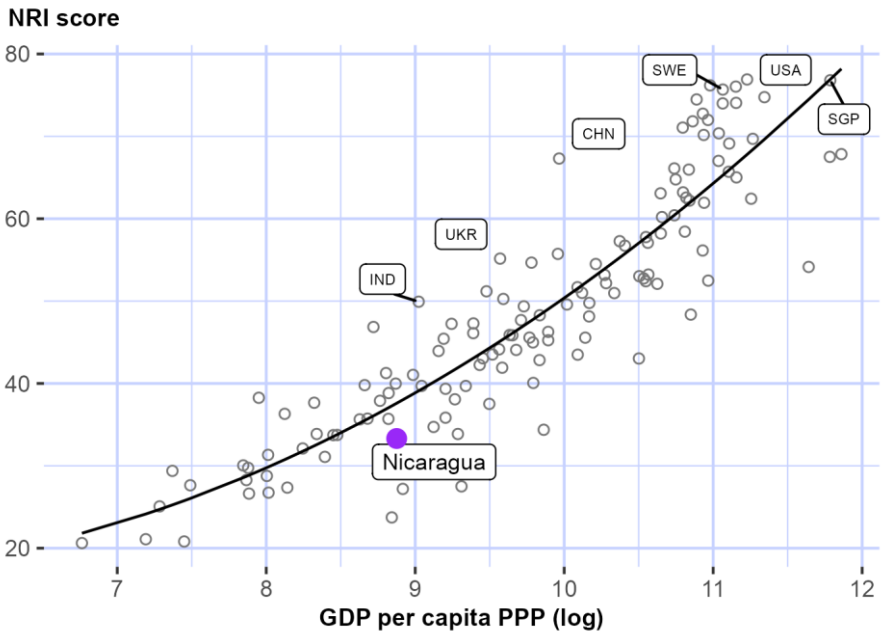
Table 1: Nicaragua rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	46	Regulation	117
Quality of Life	61	Inclusion	118
Individuals	79	Content	120
Governments	109	Access	125
Economy	111	Trust	127
Businesses	117	Future Technologies	132

NRI score and income

Figure 3 shows the position of Nicaragua in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Nicaragua is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Nicaragua belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Lower-middle-income countries

Nicaragua is ranked 32nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Individuals, Quality of Life and SDG Contribution.

The Americas

Nicaragua is ranked 21st within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Quality of Life and SDG Contribution.

Figure 4: Performance of Nicaragua against its income group and region, overall and by pillar

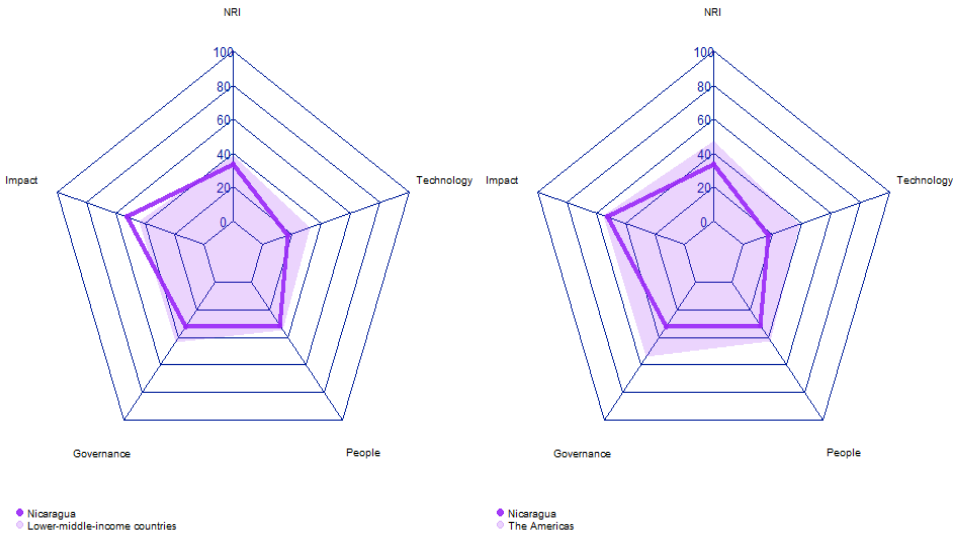


Table 2: Nicaragua scores vs. averages of its income group and region, overall and by pillar

Dimension	Nicaragua	Lower-middle-income countries	The Americas
NRI	33.32	38.41	47.41
Technology	17.13	32.12	38.24
People	31.05	34.38	42.35
Governance	32.60	43.27	54.12
Impact	52.49	43.89	54.93

Strongest and weakest indicators

The indicators where Nicaragua performs particularly well include 3.2.4 E-commerce legislation, 4.2.2 Freedom to make life choices, and 4.2.1 Happiness (Table 3). By contrast, the economy's weakest indicators include 3.1.2 Cybersecurity, 3.2.5 Privacy protection by law content, and 1.2.3 Mobile apps development.

Table 3: Highlight of Strengths and Opportunities for Nicaragua

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
4.2.2 Freedom to make life choices	19	3.2.3 Regulation of emerging technologies	116
4.2.1 Happiness	33	1.2.3 Mobile apps development	119
4.1.6 ICT services exports	41	3.2.5 Privacy protection by law content	128
4.3.5 SDG 11: Sustainable Cities and Communities	55	3.1.2 Cybersecurity	130
4.3.3 SDG 5: Women's economic opportunity	56		
4.3.1 SDG 3: Good Health and Well-Being	68		
4.2.4 Healthy life expectancy at birth	72		
3.3.2 Socioeconomic gap in use of digital payments	73		
4.3.4 SDG 7: Affordable and Clean Energy	84		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Nicaragua

Network Readiness Index Rank: 115 (out of 134) Score: 33.32

Pillar/sub-pillar	Rank	Score
A. Technology pillar	129	17.13
1st sub-pillar: Access	125	36.30
2nd sub-pillar: Content	120	6.27
3rd sub-pillar: Future Technologies	132	8.82
B. People pillar	103	31.05
1st sub-pillar: Individuals	79	44.28
2nd sub-pillar: Businesses	117	26.68
3rd sub-pillar: Governments	109	22.19

Pillar/sub-pillar	Rank	Score
C. Governance pillar	125	32.60
1st sub-pillar: Trust	127	14.06
2nd sub-pillar: Regulation	117	44.90
3rd sub-pillar: Inclusion	118	38.83
D. Impact pillar	74	52.49
1st sub-pillar: Economy	111	16.04
2nd sub-pillar: Quality of Life	61	69.55
3rd sub-pillar: SDG Contribution	46	71.87

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	129	17.13	
1st sub-pillar: Access	125	36.30	
1.1.1 Mobile tariffs	118	24.51	
1.1.2 Handset prices	117	22.69	
1.1.3 FTTH/building Internet subscriptions	95	16.46	
1.1.4 Population covered by at least a 3G mobile network	124	88.27	
1.1.5 International Internet bandwidth	122	56.80	
1.1.6 Internet access in schools	73	9.04	
2nd sub-pillar: Content	120	6.27	
1.2.1 GitHub commits	105	1.78	
1.2.2 Internet domain registrations	89	1.49	
1.2.3 Mobile apps development	119	21.49	○
1.2.4 AI scientific publications	121	0.31	
3rd sub-pillar: Future Technologies	132	8.82	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	126	13.25	

Indicator	Rank	Score	
C. Governance pillar	125	32.60	
1st sub-pillar: Trust	127	14.06	
3.1.1 Secure Internet servers	105	35.91	
3.1.2 Cybersecurity	130	7.40	○
3.1.3 Online access to financial account	120	5.71	
3.1.4 Internet shopping	102	7.23	
2nd sub-pillar: Regulation	117	44.90	
3.2.1 Regulatory quality	116	30.72	
3.2.2 ICT regulatory environment	99	68.82	
3.2.3 Regulation of emerging technologies	116	3.12	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	128	21.82	○
3rd sub-pillar: Inclusion	118	38.83	
3.3.1 E-Participation	115	23.26	
3.3.2 Socioeconomic gap in use of digital payments	73	71.20	●
3.3.3 Availability of local online content	107	34.38	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	102	4.39	
B. People pillar	103	31.05	
1st sub-pillar: Individuals	79	44.28	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	90	45.55	
2.1.4 Tertiary enrollment	101	11.03	
2.1.5 Adult literacy rate	77	76.26	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	117	26.68	
2.2.1 Firms with website	85	35.35	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	91	18.00	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	109	22.19	
2.3.1 Government online services	101	42.63	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	104	1.75	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	113	26.49	
D. Impact pillar	74	52.49	
1st sub-pillar: Economy	111	16.04	
4.1.1 High-tech and medium-high-tech manufacturing	77	16.35	
4.1.2 High-tech exports	108	1.96	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	110	36.58	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	41	25.30	●
2nd sub-pillar: Quality of Life	61	69.55	
4.2.1 Happiness	33	75.14	●
4.2.2 Freedom to make life choices	19	89.78	●
4.2.3 Income inequality	100	42.21	
4.2.4 Healthy life expectancy at birth	72	71.08	●
3rd sub-pillar: SDG Contribution	46	71.87	
4.3.1 SDG 3: Good Health and Well-Being	68	68.44	●
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	56	80.53	●
4.3.4 SDG 7: Affordable and Clean Energy	84	67.27	●
4.3.5 SDG 11: Sustainable Cities and Communities	55	71.25	●

NOTE: ● a strength and ○ a weakness.

Sources

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Nigeria

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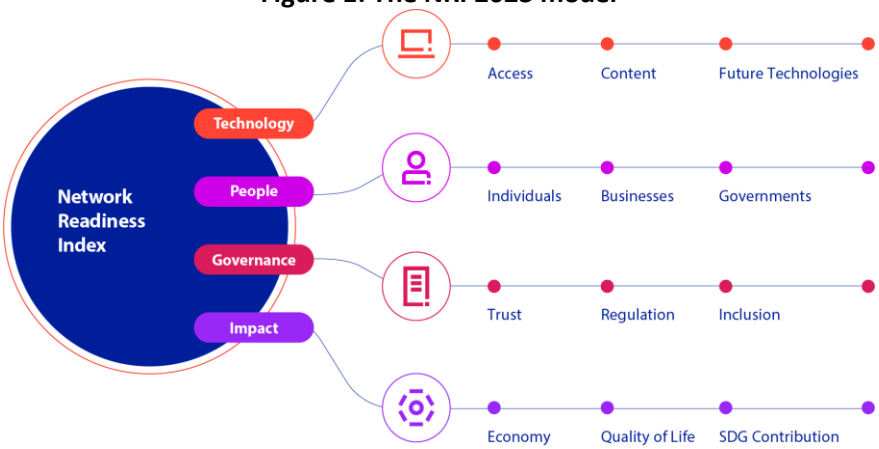
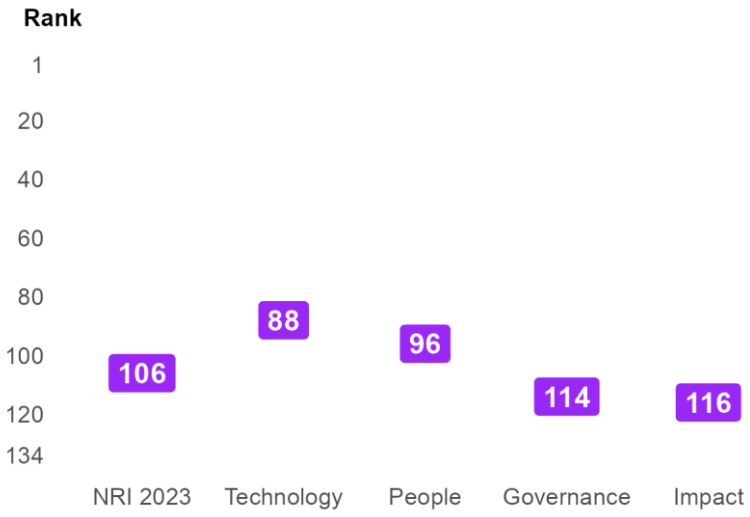
Figure 1: The NRI 2023 model



Global NRI position of Nigeria

Nigeria ranks 106th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Nigeria global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Nigeria relate to Businesses, Content and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Inclusion and SDG Contribution sub-pillars.

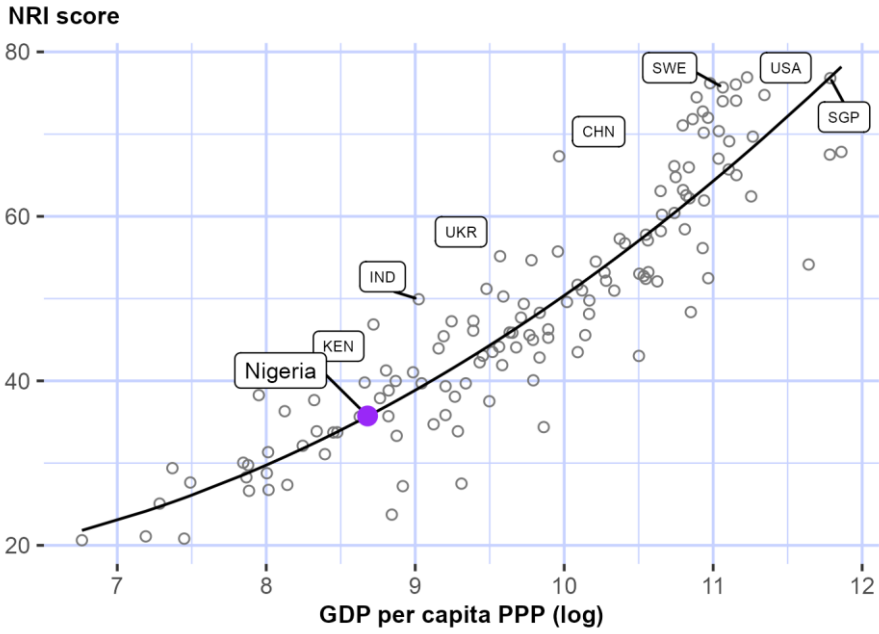
Table 1: Nigeria rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	44	Future Technologies	99
Content	69	Regulation	109
Trust	82	Quality of Life	109
Economy	85	Individuals	120
Access	89	Inclusion	131
Governments	95	SDG Contribution	131

NRI score and income

Figure 3 shows the position of Nigeria in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Nigeria is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Nigeria belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Nigeria is ranked 25th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Technology. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust and Economy.

Africa

Nigeria is ranked 10th within Africa (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, Technology, People and Impact. With regard to sub-pillars, it outperforms the average in Africa in eight of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Economy and Quality of Life.

Figure 4: Performance of Nigeria against its income group and region, overall and by pillar

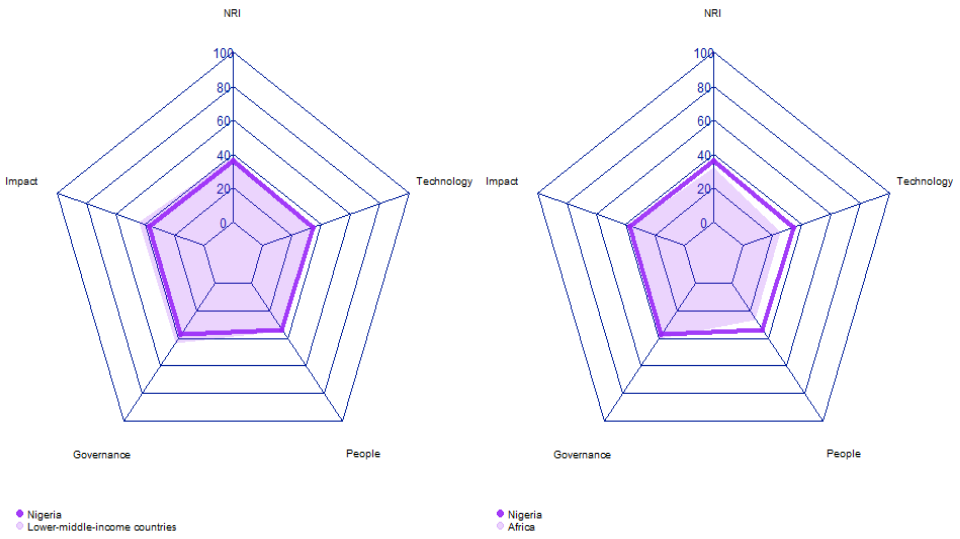


Table 2: Nigeria scores vs. averages of its income group and region, overall and by pillar

Dimension	Nigeria	Lower-middle-income countries	Africa
NRI	35.73	38.41	32.14
Technology	34.42	32.12	25.14
People	33.89	34.38	26.19
Governance	37.40	43.27	40.44
Impact	37.20	43.89	36.77

Strongest and weakest indicators

The indicators where Nigeria performs particularly well include 1.2.4 AI scientific publications, 2.2.4 Annual investment in telecommunication services, and 4.1.4 Domestic market size (Table 3). By contrast, the economy's weakest indicators include 4.3.5 SDG 11: Sustainable Cities and Communities, 4.2.4 Healthy life expectancy at birth, and 3.3.2 Socioeconomic gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Nigeria

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	18	2.2.1 Firms with website	105
2.2.4 Annual investment in telecommunication services	19	3.3.5 Rural gap in use of digital payments	122
4.1.4 Domestic market size	26	3.3.2 Socioeconomic gap in use of digital payments	124
2.2.3 Knowledge intensive employment	34	4.2.4 Healthy life expectancy at birth	125
3.2.2 ICT regulatory environment	45	4.3.5 SDG 11: Sustainable Cities and Communities	131
4.2.3 Income inequality	51		
3.1.2 Cybersecurity	55		
1.1.5 International Internet bandwidth	63		
4.1.2 High-tech exports	67		
1.1.2 Handset prices	69		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Nigeria

Network Readiness Index Rank: 106 (out of 134) Score: 35.73

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	88	34.42	C. Governance pillar	114	37.40
1st sub-pillar: Access	89	55.57	1st sub-pillar: Trust	82	35.41
2nd sub-pillar: Content	69	22.29	2nd sub-pillar: Regulation	109	50.62
3rd sub-pillar: Future Technologies	99	25.40	3rd sub-pillar: Inclusion	131	26.17
B. People pillar	96	33.89	D. Impact pillar	116	37.20
1st sub-pillar: Individuals	120	20.71	1st sub-pillar: Economy	85	22.51
2nd sub-pillar: Businesses	44	52.97	2nd sub-pillar: Quality of Life	109	50.53
3rd sub-pillar: Governments	95	28.00	3rd sub-pillar: SDG Contribution	131	38.56

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	88	34.42		**C. Governance pillar**	114	37.40	
1st sub-pillar: Access	89	55.57		*1st sub-pillar: Trust*	82	35.41	
1.1.1 Mobile tariffs	96	44.76		3.1.1 Secure Internet servers	107	34.23	
1.1.2 Handset prices	69	45.92	•	3.1.2 Cybersecurity	55	84.49	•
1.1.3 FTTH/building Internet subscriptions	89	20.16		3.1.3 Online access to financial account	80	19.70	
1.1.4 Population covered by at least a 3G mobile network	111	95.22		3.1.4 Internet shopping	117	3.23	
1.1.5 International Internet bandwidth	63	71.81	•	*2nd sub-pillar: Regulation*	109	50.62	
1.1.6 Internet access in schools	NA	NA		3.2.1 Regulatory quality	123	28.53	
2nd sub-pillar: Content	69	22.29		3.2.2 ICT regulatory environment	45	87.06	•
1.2.1 GitHub commits	83	3.90		3.2.3 Regulation of emerging technologies	105	18.70	
1.2.2 Internet domain registrations	108	0.49		3.2.4 E-commerce legislation	87	66.67	
1.2.3 Mobile apps development	82	60.84		3.2.5 Privacy protection by law content	90	52.16	
1.2.4 AI scientific publications	18	23.91	•	*3rd sub-pillar: Inclusion*	131	26.17	
3rd sub-pillar: Future Technologies	99	25.40		3.3.1 E-Participation	104	29.07	
1.3.1 Adoption of emerging technologies	75	43.17		3.3.2 Socioeconomic gap in use of digital payments	124	33.24	○
1.3.2 Investment in emerging technologies	115	22.75		3.3.3 Availability of local online content	117	27.40	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	88	10.29	
B. People pillar		96	33.89	
1st sub-pillar: Individuals		120	20.71	
2.1.1	Mobile broadband internet traffic within the country	72	7.52	
2.1.2	ICT skills in the education system	87	30.21	
2.1.3	Use of virtual social networks	114	11.34	
2.1.4	Tertiary enrollment	108	6.33	
2.1.5	Adult literacy rate	97	48.14	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		44	52.97	
2.2.1	Firms with website	105	14.79	○
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	34	57.66	●
2.2.4	Annual investment in telecommunication services	19	86.47	●
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		95	28.00	
2.3.1	Government online services	93	47.50	
2.3.2	Publication and use of open data	73	19.12	
2.3.3	Government promotion of investment in emerging tech	110	17.38	
2.3.4	R&D expenditure by governments and higher education	NA	NA	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	122	14.97	○
D. Impact pillar		116	37.20	
1st sub-pillar: Economy		85	22.51	
4.1.1	High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2	High-tech exports	67	11.52	●
4.1.3	PCT patent applications	96	0.13	
4.1.4	Domestic market size	26	69.32	●
4.1.5	Prevalence of gig economy	92	29.65	
4.1.6	ICT services exports	116	1.92	
2nd sub-pillar: Quality of Life		109	50.53	
4.2.1	Happiness	102	39.56	
4.2.2	Freedom to make life choices	99	58.45	
4.2.3	Income inequality	51	70.10	●
4.2.4	Healthy life expectancy at birth	125	34.00	○
3rd sub-pillar: SDG Contribution		131	38.56	
4.3.1	SDG 3: Good Health and Well-Being	121	26.65	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	115	52.21	
4.3.4	SDG 7: Affordable and Clean Energy	113	52.10	
4.3.5	SDG 11: Sustainable Cities and Communities	131	23.29	○

NOTE: ● a strength and ○ a weakness.

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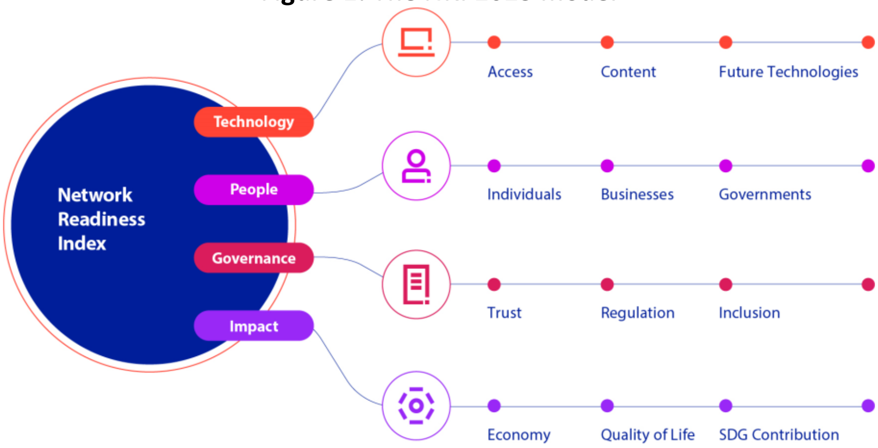
North Macedonia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

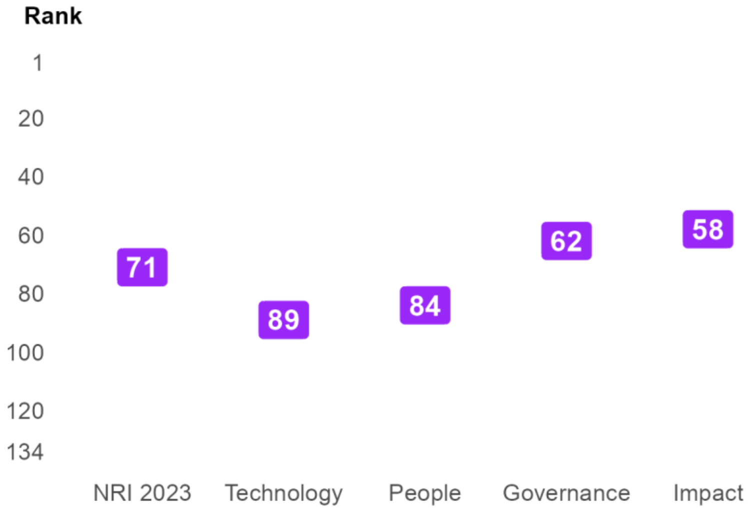
Figure 1: The NRI 2023 model



Global NRI position of North Macedonia

North Macedonia ranks 71st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: North Macedonia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of North Macedonia relate to Quality of Life, Trust and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Individuals and Future Technologies sub-pillars.

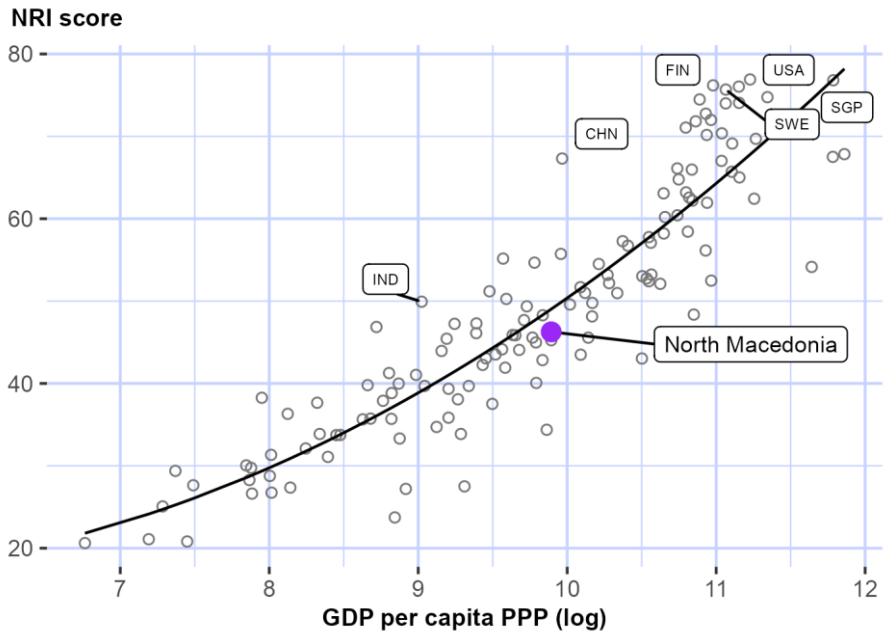
Table 1: North Macedonia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	48	SDG Contribution	75
Trust	61	Access	81
Inclusion	62	Regulation	81
Economy	62	Governments	83
Content	73	Individuals	94
Businesses	75	Future Technologies	109

NRI score and income

Figure 3 shows the position of North Macedonia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, North Macedonia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). North Macedonia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

North Macedonia is ranked 18th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in five of the twelve sub-pillars: Businesses, Trust, Inclusion, Economy and Quality of Life.

Europe

North Macedonia is ranked 38th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of North Macedonia against its income group and region, overall and by pillar

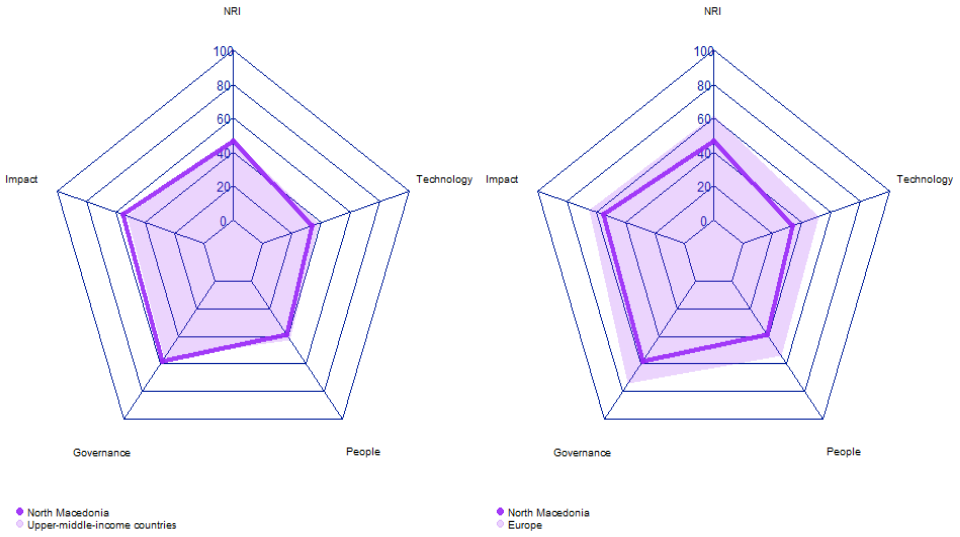


Table 2: North Macedonia scores vs. averages of its income group and region, overall and by pillar

Dimension	North Macedonia	Upper-middle-income countries	Europe
NRI	46.26	47.35	61.25
Technology	33.72	38.48	51.90
People	38.59	42.59	54.16
Governance	57.98	55.90	74.33
Impact	54.77	52.43	64.61

Strongest and weakest indicators

The indicators where North Macedonia performs particularly well include 4.1.1 High-tech and medium-high-tech manufacturing, 1.1.2 Handset prices, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 1.3.2 Investment in emerging technologies, and 2.2.4 Annual investment in telecommunication services.

Table 3: Highlight of Strengths and Opportunities for North Macedonia

Strongest indicators	Rank	Weakest indicators	Rank
4.1.1 High-tech and medium-high-tech manufacturing	11	3.2.4 E-commerce legislation	87
1.1.2 Handset prices	22	2.1.2 ICT skills in the education system	101
4.1.6 ICT services exports	28	2.2.4 Annual investment in telecommunication services	110
2.1.5 Adult literacy rate	33	1.1.5 International Internet bandwidth	123
1.1.4 Population covered by at least a 3G mobile network	38	1.3.2 Investment in emerging technologies	123
4.2.3 Income inequality	41		
2.2.3 Knowledge intensive employment	42		
3.3.1 E-Participation	43		
4.3.4 SDG 7: Affordable and Clean Energy	43		
3.1.2 Cybersecurity	46		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: North Macedonia

Network Readiness Index Rank: 71 (out of 134) Score: 46.26

Pillar/sub-pillar	Rank	Score
A. Technology pillar	89	33.72
1st sub-pillar: Access	81	58.98
2nd sub-pillar: Content	73	21.87
3rd sub-pillar: Future Technologies	109	20.30
B. People pillar	84	38.59
1st sub-pillar: Individuals	94	39.45
2nd sub-pillar: Businesses	75	42.67
3rd sub-pillar: Governments	83	33.66

Pillar/sub-pillar	Rank	Score
C. Governance pillar	62	57.98
1st sub-pillar: Trust	61	49.16
2nd sub-pillar: Regulation	81	62.07
3rd sub-pillar: Inclusion	62	62.70
D. Impact pillar	58	54.77
1st sub-pillar: Economy	62	29.80
2nd sub-pillar: Quality of Life	48	73.74
3rd sub-pillar: SDG Contribution	75	60.76

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	89	33.72	
1st sub-pillar: Access	81	58.98	
1.1.1 Mobile tariffs	99	42.78	
1.1.2 Handset prices	22	76.52	●
1.1.3 FTTH/building Internet subscriptions	90	19.45	
1.1.4 Population covered by at least a 3G mobile network	38	99.95	●
1.1.5 International Internet bandwidth	123	56.22	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	73	21.87	
1.2.1 GitHub commits	57	8.77	
1.2.2 Internet domain registrations	51	6.70	
1.2.3 Mobile apps development	56	69.62	
1.2.4 AI scientific publications	83	2.40	
3rd sub-pillar: Future Technologies	109	20.30	
1.3.1 Adoption of emerging technologies	97	32.55	
1.3.2 Investment in emerging technologies	123	17.50	○

Indicator	Rank	Score	
C. Governance pillar	62	57.98	
1st sub-pillar: Trust	61	49.16	
3.1.1 Secure Internet servers	63	55.30	
3.1.2 Cybersecurity	46	89.74	●
3.1.3 Online access to financial account	88	16.85	
3.1.4 Internet shopping	57	34.75	
2nd sub-pillar: Regulation	81	62.07	
3.2.1 Regulatory quality	51	59.01	
3.2.2 ICT regulatory environment	45	87.06	
3.2.3 Regulation of emerging technologies	88	30.65	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	62	66.96	
3rd sub-pillar: Inclusion	62	62.70	
3.3.1 E-Participation	43	68.61	●
3.3.2 Socioeconomic gap in use of digital payments	74	69.91	
3.3.3 Availability of local online content	80	52.40	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	87	10.85	
B. People pillar	84	38.59	
1st sub-pillar: Individuals	94	39.45	
2.1.1 Mobile broadband internet traffic within the country	96	2.25	
2.1.2 ICT skills in the education system	101	17.52	○
2.1.3 Use of virtual social networks	82	53.57	
2.1.4 Tertiary enrollment	74	27.20	
2.1.5 Adult literacy rate	33	96.72	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	75	42.67	
2.2.1 Firms with website	44	62.38	
2.2.2 GERD financed by business enterprise	64	27.59	
2.2.3 Knowledge intensive employment	42	49.54	●
2.2.4 Annual investment in telecommunication services	110	71.28	○
2.2.5 GERD performed by business enterprise	61	2.54	
3rd sub-pillar: Governments	83	33.66	
2.3.1 Government online services	65	67.06	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	96	27.14	
2.3.4 R&D expenditure by governments and higher education	68	6.62	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	77	63.04	
3.3.5 Rural gap in use of digital payments	74	59.52	
D. Impact pillar	58	54.77	
1st sub-pillar: Economy	62	29.80	
4.1.1 High-tech and medium-high-tech manufacturing	11	62.57	●
4.1.2 High-tech exports	84	7.34	
4.1.3 PCT patent applications	60	3.91	
4.1.4 Domestic market size	117	35.05	
4.1.5 Prevalence of gig economy	68	38.37	
4.1.6 ICT services exports	28	31.56	●
2nd sub-pillar: Quality of Life	48	73.74	
4.2.1 Happiness	NA	NA	
4.2.2 Freedom to make life choices	NA	NA	
4.2.3 Income inequality	41	74.12	●
4.2.4 Healthy life expectancy at birth	63	73.37	
3rd sub-pillar: SDG Contribution	75	60.76	
4.3.1 SDG 3: Good Health and Well-Being	79	65.76	
4.3.2 SDG 4: Quality Education	64	26.92	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	43	76.52	●
4.3.5 SDG 11: Sustainable Cities and Communities	81	55.82	

NOTE: ● a strength and ○ a weakness.

Sources

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Norway

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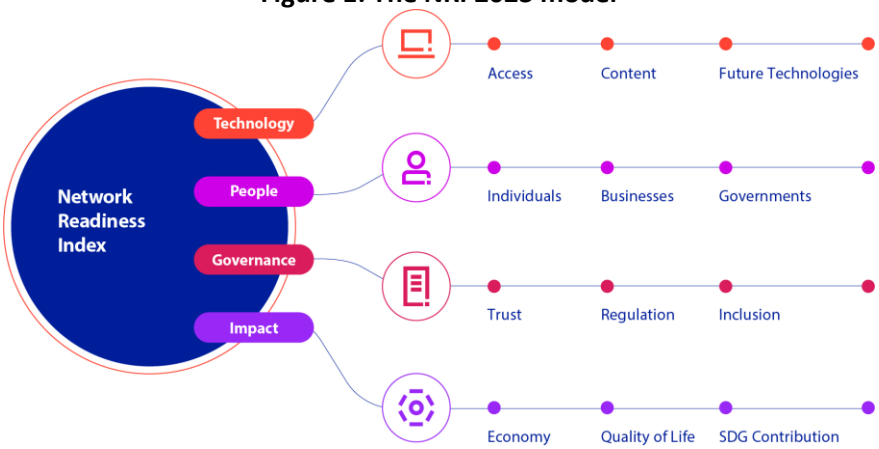
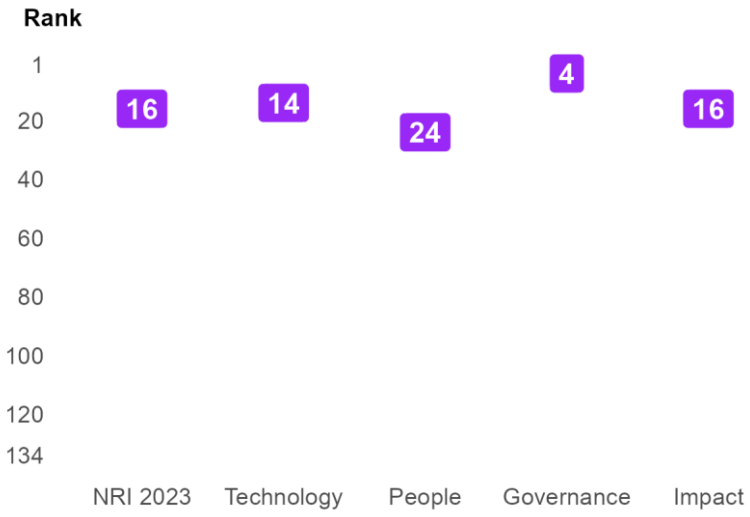
Figure 1: The NRI 2023 model



Global NRI position of Norway

Norway ranks 16th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Norway global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Norway relate to Trust, Regulation and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Individuals sub-pillars.

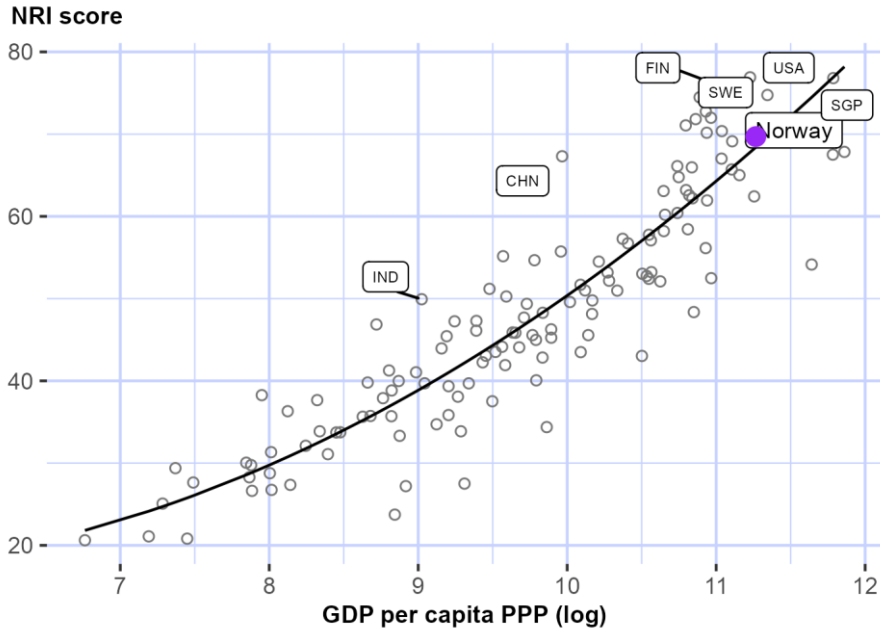
Table 1: Norway rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	2	Governments	19
Regulation	3	Businesses	21
Quality of Life	5	Inclusion	21
Content	8	Future Technologies	29
SDG Contribution	10	Economy	43
Access	14	Individuals	82

NRI score and income

Figure 3 shows the position of Norway in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Norway is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Norway belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Norway is ranked 16th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in nine of the twelve sub-pillars: Access, Content, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Europe

Norway is ranked 10th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in ten of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Norway against its income group and region, overall and by pillar

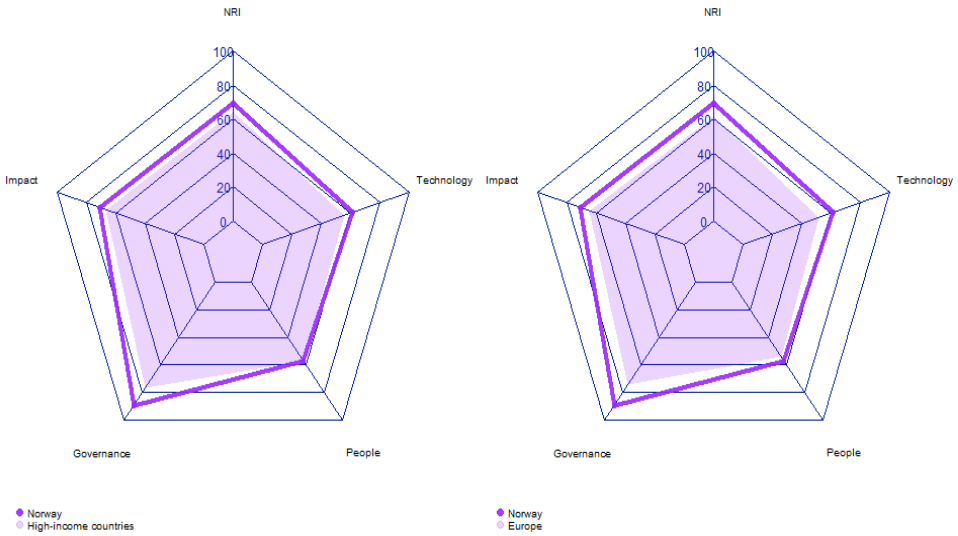


Table 2: Norway scores vs. averages of its income group and region, overall and by pillar

Dimension	Norway	High-income countries	Europe
NRI	69.70	64.07	61.25
Technology	61.29	55.76	51.90
People	57.23	56.99	54.16
Governance	89.44	76.81	74.33
Impact	70.83	66.73	64.61

Strongest and weakest indicators

The indicators where Norway performs particularly well include 1.1.6 Internet access in schools, 3.1.3 Online access to financial account, and 3.1.4 Internet shopping (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 4.1.1 High-tech and medium-high-tech manufacturing, and 1.1.3 FTTH/building Internet subscriptions.

Table 3: Highlight of Strengths and Opportunities for Norway

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.1 Mobile broadband internet traffic within the country	61
3.1.3 Online access to financial account	1	1.1.3 FTTH/building Internet subscriptions	63
3.1.4 Internet shopping	1	4.1.1 High-tech and medium-high-tech manufacturing	68
3.2.4 E-commerce legislation	1	1.1.5 International Internet bandwidth	79
4.3.5 SDG 11: Sustainable Cities and Communities	2		
2.2.3 Knowledge intensive employment	5		
1.2.1 GitHub commits	6		
3.2.5 Privacy protection by law content	7		
4.2.1 Happiness	7		
4.2.2 Freedom to make life choices	8		
1.1.1 Mobile tariffs	9		
3.2.1 Regulatory quality	10		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Norway

Network Readiness Index Rank: 16 (out of 134) Score: 69.70

Pillar/sub-pillar	Rank	Score
A. Technology pillar	14	61.29
1st sub-pillar: Access	14	78.25
2nd sub-pillar: Content	8	58.13
3rd sub-pillar: Future Technologies	29	47.50
B. People pillar	24	57.23
1st sub-pillar: Individuals	82	43.16
2nd sub-pillar: Businesses	21	66.45
3rd sub-pillar: Governments	19	62.09

Pillar/sub-pillar	Rank	Score
C. Governance pillar	4	89.44
1st sub-pillar: Trust	2	95.30
2nd sub-pillar: Regulation	3	93.35
3rd sub-pillar: Inclusion	21	79.67
D. Impact pillar	16	70.83
1st sub-pillar: Economy	43	35.22
2nd sub-pillar: Quality of Life	5	91.35
3rd sub-pillar: SDG Contribution	10	85.92

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	14	61.29	
1st sub-pillar: Access	14	78.25	
1.1.1 Mobile tariffs	9	91.25	●
1.1.2 Handset prices	14	80.01	
1.1.3 FTTH/building Internet subscriptions	63	29.20	○
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	79	69.06	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	8	58.13	
1.2.1 GitHub commits	6	87.47	●
1.2.2 Internet domain registrations	12	63.54	
1.2.3 Mobile apps development	35	73.56	
1.2.4 AI scientific publications	56	7.95	
3rd sub-pillar: Future Technologies	29	47.50	
1.3.1 Adoption of emerging technologies	NA	NA	
1.3.2 Investment in emerging technologies	16	73.50	
1.3.3 Robot density	23	14.06	

Indicator	Rank	Score	
C. Governance pillar	4	89.44	
1st sub-pillar: Trust	2	95.30	
3.1.1 Secure Internet servers	19	84.36	
3.1.2 Cybersecurity	23	96.84	
3.1.3 Online access to financial account	1	100.00	●
3.1.4 Internet shopping	1	100.00	●
2nd sub-pillar: Regulation	3	93.35	
3.2.1 Regulatory quality	10	86.54	●
3.2.2 ICT regulatory environment	11	94.71	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	7	92.16	●
3rd sub-pillar: Inclusion	21	79.67	
3.3.1 E-Participation	43	68.61	
3.3.2 Socioeconomic gap in use of digital payments	12	97.56	
3.3.3 Availability of local online content	27	84.13	
3.3.4 Gender gap in Internet use	26	71.55	

Indicator	Rank	Score	
1.3.4 Computer software spending	18	54.95	
B. People pillar	24	57.23	
1st sub-pillar: Individuals	82	43.16	
2.1.1 Mobile broadband internet traffic within the country	61	10.28	○
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	14	80.16	
2.1.4 Tertiary enrollment	18	55.16	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	16	27.04	
2nd sub-pillar: Businesses	21	66.45	
2.2.1 Firms with website	9	85.44	
2.2.2 GERD financed by business enterprise	35	55.03	
2.2.3 Knowledge intensive employment	5	80.67	●
2.2.4 Annual investment in telecommunication services	34	84.35	
2.2.5 GERD performed by business enterprise	21	26.74	
3rd sub-pillar: Governments	19	62.09	
2.3.1 Government online services	39	77.97	
2.3.2 Publication and use of open data	11	73.53	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	20	34.76	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	16	76.50	
D. Impact pillar	16	70.83	
1st sub-pillar: Economy	43	35.22	
4.1.1 High-tech and medium-high-tech manufacturing	68	20.65	○
4.1.2 High-tech exports	21	37.20	
4.1.3 PCT patent applications	16	46.27	
4.1.4 Domestic market size	50	58.62	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	66	13.34	
2nd sub-pillar: Quality of Life	5	91.35	
4.2.1 Happiness	7	91.92	●
4.2.2 Freedom to make life choices	8	93.94	●
4.2.3 Income inequality	12	88.69	
4.2.4 Healthy life expectancy at birth	15	90.85	
3rd sub-pillar: SDG Contribution	10	85.92	
4.3.1 SDG 3: Good Health and Well-Being	12	93.86	
4.3.2 SDG 4: Quality Education	22	66.48	
4.3.3 SDG 5: Women's economic opportunity	20	95.58	
4.3.4 SDG 7: Affordable and Clean Energy	55	74.49	
4.3.5 SDG 11: Sustainable Cities and Communities	2	99.19	●

NOTE: ● a strength and ○ a weakness.

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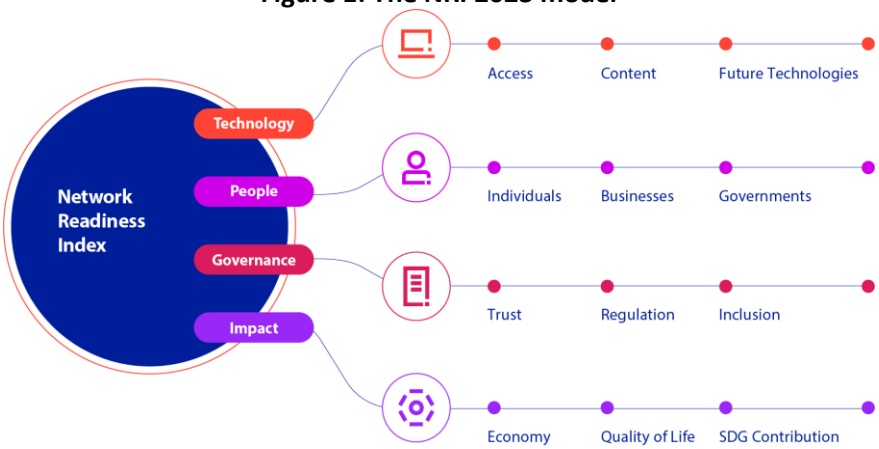
Oman

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

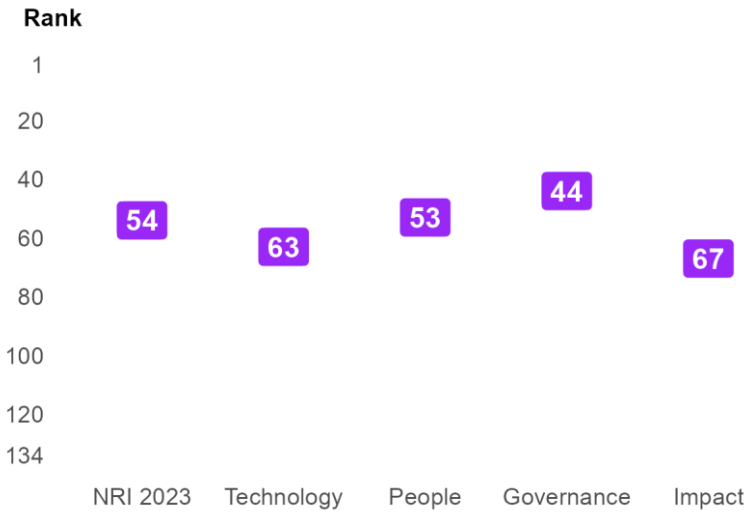
Figure 1: The NRI 2023 model



Global NRI position of Oman

Oman ranks 54th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Oman global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Oman relate to Individuals, Quality of Life and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Businesses and SDG Contribution sub-pillars.

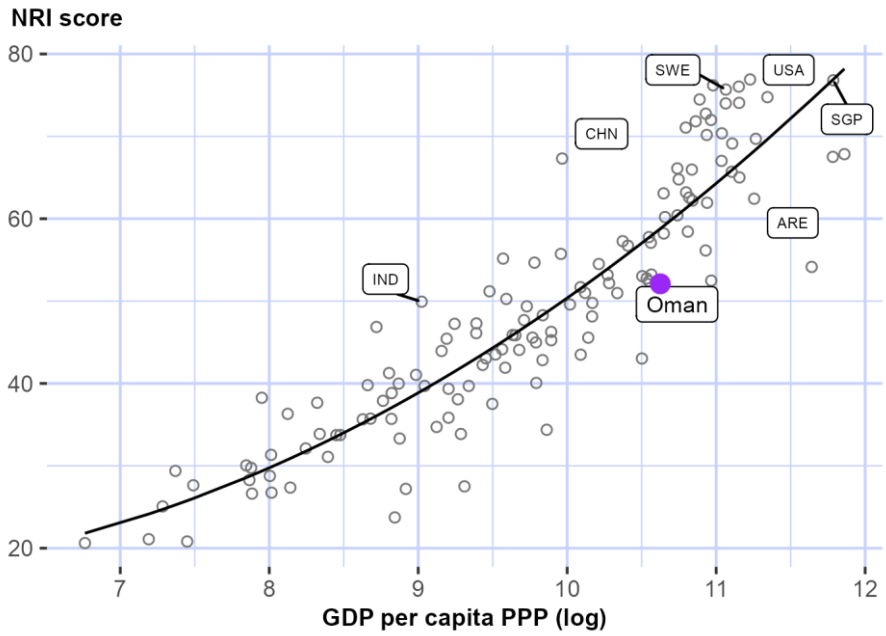
Table 1: Oman rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	20	Access	56
Quality of Life	24	Economy	72
Trust	33	Content	84
Inclusion	43	Regulation	89
Governments	45	Businesses	94
Future Technologies	53	SDG Contribution	102

NRI score and income

Figure 3 shows the position of Oman in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Oman is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Oman belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Oman is ranked 46th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Individuals and Quality of Life.

Arab States

Oman is ranked 5th within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in eight of the twelve sub-pillars: Access, Content, Individuals, Governments, Trust, Regulation, Inclusion and Quality of Life.

Figure 4: Performance of Oman against its income group and region, overall and by pillar

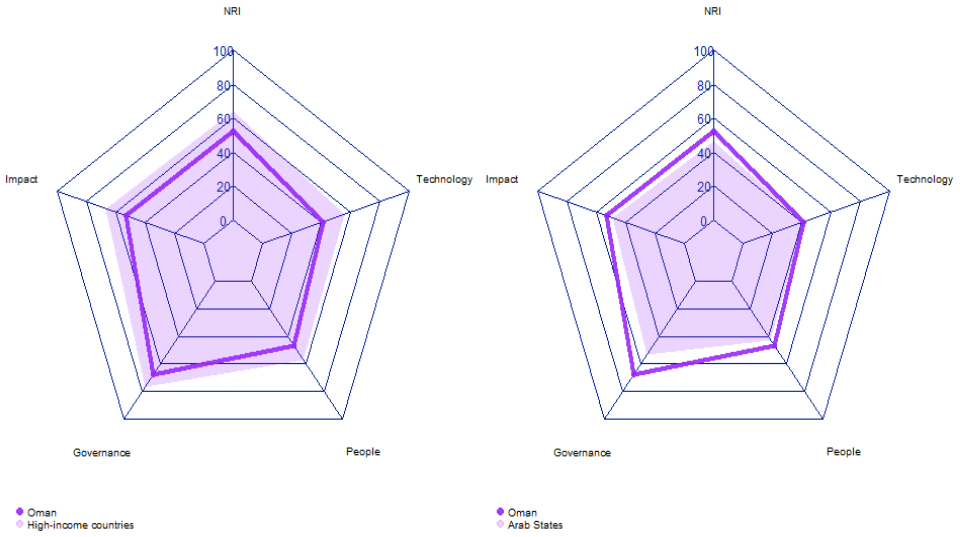


Table 2: Oman scores vs. averages of its income group and region, overall and by pillar

Dimension	Oman	High-income countries	Arab States
NRI	52.10	64.07	46.59
Technology	41.31	55.76	41.17
People	46.48	56.99	42.66
Governance	67.48	76.81	53.45
Impact	53.11	66.73	49.08

Strongest and weakest indicators

The indicators where Oman performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 2.1.3 Use of virtual social networks, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.5 Privacy protection by law content.

Table 3: Highlight of Strengths and Opportunities for Oman

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	3.2.4 E-commerce legislation	87
2.1.3 Use of virtual social networks	5	1.3.4 Computer software spending	104
3.3.4 Gender gap in Internet use	7	3.2.5 Privacy protection by law content	120
4.2.2 Freedom to make life choices	16	4.3.4 SDG 7: Affordable and Clean Energy	121
4.2.1 Happiness	19	4.3.3 SDG 5: Women's economic opportunity	131
2.1.2 ICT skills in the education system	23		
2.3.3 Government promotion of investment in emerging technologies	24		
4.3.5 SDG 11: Sustainable Cities and Communities	27		
3.1.2 Cybersecurity	28		
4.1.5 Prevalence of gig economy	30		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Oman

Network Readiness Index Rank: 54 (out of 134) Score: 52.10

Pillar/sub-pillar	Rank	Score
A. Technology pillar	63	41.31
1st sub-pillar: Access	56	67.80
2nd sub-pillar: Content	84	18.93
3rd sub-pillar: Future Technologies	53	37.21
B. People pillar	53	46.48
1st sub-pillar: Individuals	20	57.80
2nd sub-pillar: Businesses	94	35.44
3rd sub-pillar: Governments	45	46.18

Pillar/sub-pillar	Rank	Score
C. Governance pillar	44	67.48
1st sub-pillar: Trust	33	70.20
2nd sub-pillar: Regulation	89	60.23
3rd sub-pillar: Inclusion	43	72.03
D. Impact pillar	67	53.11
1st sub-pillar: Economy	72	25.94
2nd sub-pillar: Quality of Life	24	80.77
3rd sub-pillar: SDG Contribution	102	52.62

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	63	41.31	
1st sub-pillar: Access	56	67.80	
1.1.1 Mobile tariffs	62	62.97	
1.1.2 Handset prices	55	54.72	
1.1.3 FTTH/building Internet subscriptions	93	17.37	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	•
1.1.5 International Internet bandwidth	56	73.23	
1.1.6 Internet access in schools	33	98.49	
2nd sub-pillar: Content	84	18.93	
1.2.1 GitHub commits	108	1.43	
1.2.2 Internet domain registrations	94	1.24	
1.2.3 Mobile apps development	44	71.86	
1.2.4 AI scientific publications	99	1.21	
3rd sub-pillar: Future Technologies	53	37.21	
1.3.1 Adoption of emerging technologies	44	57.47	
1.3.2 Investment in emerging technologies	42	50.00	

Indicator	Rank	Score	
C. Governance pillar	44	67.48	
1st sub-pillar: Trust	33	70.20	
3.1.1 Secure Internet servers	85	44.42	
3.1.2 Cybersecurity	28	95.97	•
3.1.3 Online access to financial account	NA	NA	
3.1.4 Internet shopping	NA	NA	
2nd sub-pillar: Regulation	89	60.23	
3.2.1 Regulatory quality	53	57.05	
3.2.2 ICT regulatory environment	34	89.41	
3.2.3 Regulation of emerging technologies	46	56.10	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	120	31.89	○
3rd sub-pillar: Inclusion	43	72.03	
3.3.1 E-Participation	50	65.12	
3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
3.3.3 Availability of local online content	42	74.52	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	104	4.16	○
B. People pillar	53	46.48	
1st sub-pillar: Individuals	20	57.80	
2.1.1 Mobile broadband internet traffic within the country	81	6.32	
2.1.2 ICT skills in the education system	23	72.63	●
2.1.3 Use of virtual social networks	5	85.83	●
2.1.4 Tertiary enrollment	68	30.16	
2.1.5 Adult literacy rate	46	94.06	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	94	35.44	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	55	39.33	
2.2.3 Knowledge intensive employment	84	21.42	
2.2.4 Annual investment in telecommunication services	55	79.29	
2.2.5 GERD performed by business enterprise	64	1.73	
3rd sub-pillar: Governments	45	46.18	
2.3.1 Government online services	58	71.52	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	24	61.99	●
2.3.4 R&D expenditure by governments and higher education	79	5.04	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	7	76.44	●
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	67	53.11	
1st sub-pillar: Economy	72	25.94	
4.1.1 High-tech and medium-high-tech manufacturing	71	19.79	
4.1.2 High-tech exports	65	11.74	
4.1.3 PCT patent applications	75	1.72	
4.1.4 Domestic market size	71	50.71	
4.1.5 Prevalence of gig economy	30	61.92	●
4.1.6 ICT services exports	79	9.77	
2nd sub-pillar: Quality of Life	24	80.77	
4.2.1 Happiness	19	83.71	●
4.2.2 Freedom to make life choices	16	90.16	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	80	68.45	
3rd sub-pillar: SDG Contribution	102	52.62	
4.3.1 SDG 3: Good Health and Well-Being	78	66.17	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	131	13.27	○
4.3.4 SDG 7: Affordable and Clean Energy	121	44.00	○
4.3.5 SDG 11: Sustainable Cities and Communities	27	87.04	●

NOTE: ● a strength and ○ a weakness.

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Pakistan

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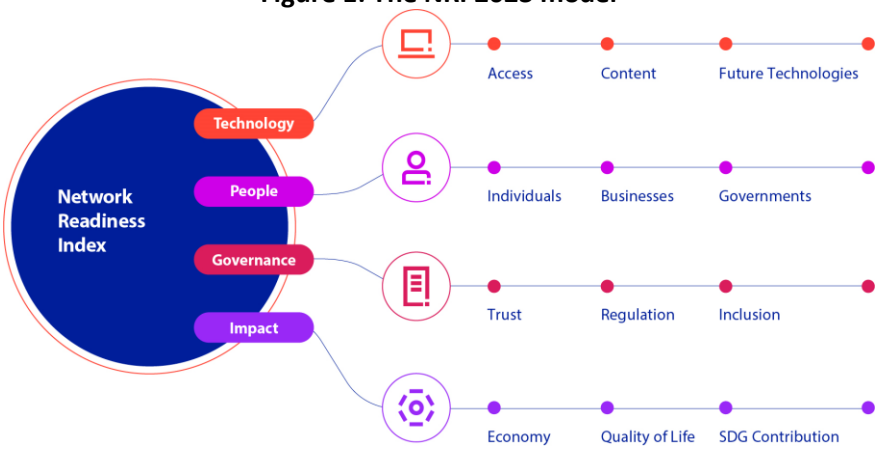
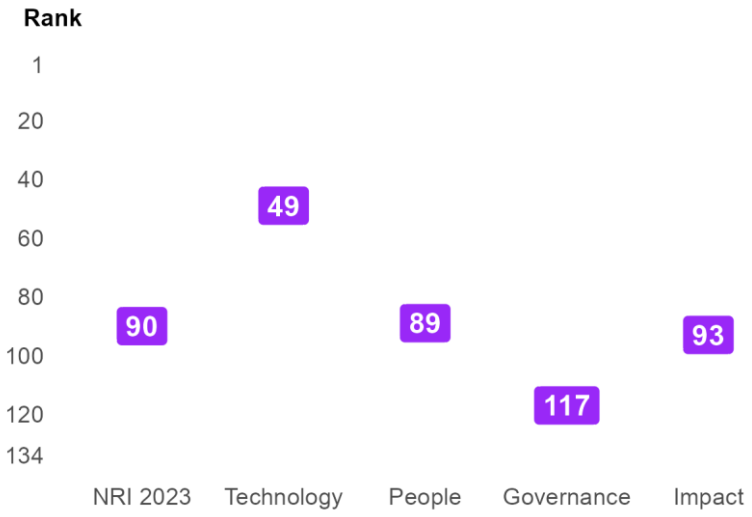
Figure 1: The NRI 2023 model



Global NRI position of Pakistan

Pakistan ranks 90th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Pakistan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Pakistan relate to Future Technologies, Economy and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, SDG Contribution and Inclusion sub-pillars.

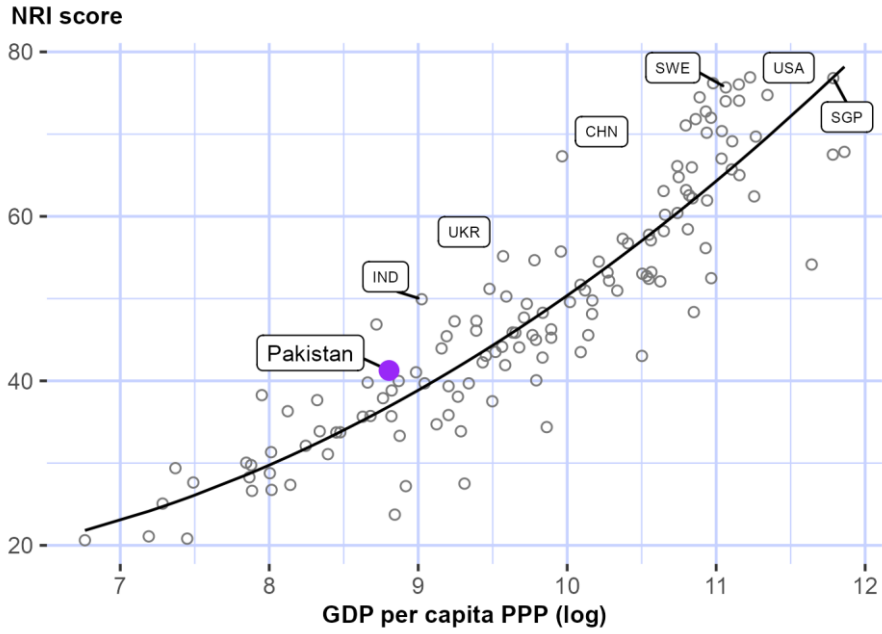
Table 1: Pakistan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	40	Individuals	103
Economy	41	Governments	104
Content	47	Trust	105
Businesses	54	Regulation	110
Access	68	SDG Contribution	117
Quality of Life	98	Inclusion	122

NRI score and income

Figure 3 shows the position of Pakistan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Pakistan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Pakistan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Pakistan is ranked 14th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Impact. At the sub-pillar level, it outperforms lower-middle-income countries in six of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Economy and Quality of Life.

Asia & Pacific

Pakistan is ranked 17th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Businesses.

Figure 4: Performance of Pakistan against its income group and region, overall and by pillar

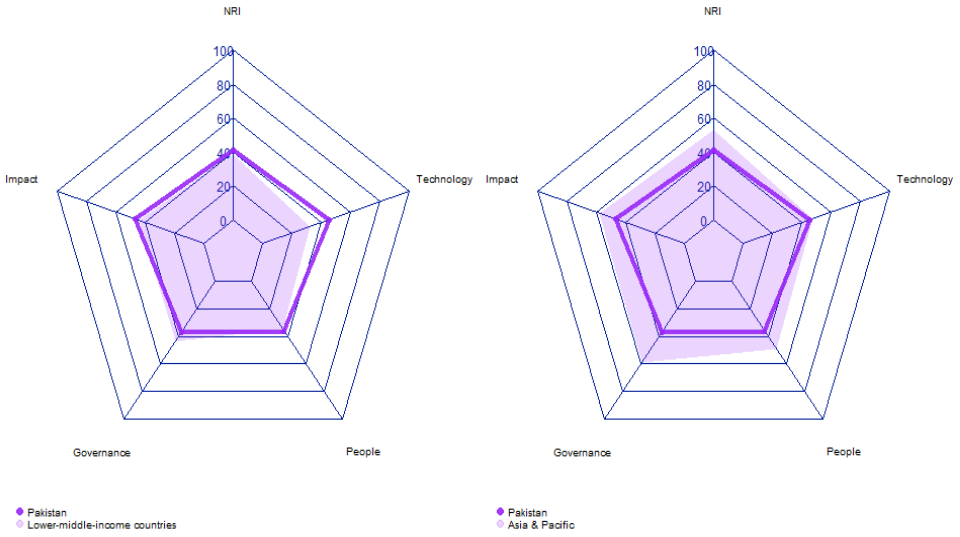


Table 2: Pakistan scores vs. averages of its income group and region, overall and by pillar

Dimension	Pakistan	Lower-middle-income countries	Asia & Pacific
NRI	41.26	38.41	53.28
Technology	45.20	32.12	47.34
People	36.25	34.38	48.95
Governance	36.86	43.27	59.22
Impact	46.74	43.89	57.62

Strongest and weakest indicators

The indicators where Pakistan performs particularly well include 1.2.4 AI scientific publications, 1.2.3 Mobile apps development, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 3.1.4 Internet shopping, 3.3.5 Rural gap in use of digital payments, and 3.2.4 E-commerce legislation.

Table 3: Highlight of Strengths and Opportunities for Pakistan

Strongest indicators	Rank	Weakest indicators	Rank
1.2.4 AI scientific publications	10	2.3.2 Publication and use of open data	100
1.2.3 Mobile apps development	13	3.3.4 Gender gap in Internet use	105
2.1.1 Mobile broadband internet traffic within the country	16	3.2.4 E-commerce legislation	121
1.1.5 International Internet bandwidth	17	3.3.5 Rural gap in use of digital payments	125
4.2.3 Income inequality	21	3.1.4 Internet shopping	129
4.1.4 Domestic market size	22		
4.1.6 ICT services exports	22		
1.1.3 FTTH/building Internet subscriptions	25		
2.2.4 Annual investment in telecommunication services	25		
1.3.4 Computer software spending	31		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Pakistan

Network Readiness Index Rank: 90 (out of 134) Score: 41.26

Pillar/sub-pillar	Rank	Score
A. Technology pillar	49	45.20
1st sub-pillar: Access	68	64.77
2nd sub-pillar: Content	47	29.12
3rd sub-pillar: Future Technologies	40	41.70
B. People pillar	89	36.25
1st sub-pillar: Individuals	103	35.25
2nd sub-pillar: Businesses	54	48.35
3rd sub-pillar: Governments	104	25.14

Pillar/sub-pillar	Rank	Score
C. Governance pillar	117	36.86
1st sub-pillar: Trust	105	27.46
2nd sub-pillar: Regulation	110	50.31
3rd sub-pillar: Inclusion	122	32.82
D. Impact pillar	93	46.74
1st sub-pillar: Economy	41	36.11
2nd sub-pillar: Quality of Life	98	57.68
3rd sub-pillar: SDG Contribution	117	46.43

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	49	45.20	
1st sub-pillar: Access	68	64.77	
1.1.1 Mobile tariffs	56	67.25	
1.1.2 Handset prices	91	36.97	
1.1.3 FTTH/building Internet subscriptions	25	45.07	•
1.1.4 Population covered by at least a 3G mobile network	123	92.22	
1.1.5 International Internet bandwidth	17	82.31	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	47	29.12	
1.2.1 GitHub commits	103	1.80	
1.2.2 Internet domain registrations	111	0.40	
1.2.3 Mobile apps development	13	78.01	•
1.2.4 AI scientific publications	10	36.29	•
3rd sub-pillar: Future Technologies	40	41.70	
1.3.1 Adoption of emerging technologies	69	45.59	
1.3.2 Investment in emerging technologies	48	48.25	

Indicator	Rank	Score	
C. Governance pillar	117	36.86	
1st sub-pillar: Trust	105	27.46	
3.1.1 Secure Internet servers	108	34.06	
3.1.2 Cybersecurity	86	64.26	
3.1.3 Online access to financial account	103	11.51	
3.1.4 Internet shopping	129	0.00	○
2nd sub-pillar: Regulation	110	50.31	
3.2.1 Regulatory quality	111	33.07	
3.2.2 ICT regulatory environment	42	87.65	
3.2.3 Regulation of emerging technologies	50	52.21	
3.2.4 E-commerce legislation	121	33.33	○
3.2.5 Privacy protection by law content	107	45.26	
3rd sub-pillar: Inclusion	122	32.82	
3.3.1 E-Participation	94	34.88	
3.3.2 Socioeconomic gap in use of digital payments	71	72.53	
3.3.3 Availability of local online content	83	51.44	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	31	31.25	●
B. People pillar	89	36.25	
1st sub-pillar: Individuals	103	35.25	
2.1.1 Mobile broadband internet traffic within the country	16	43.65	●
2.1.2 ICT skills in the education system	44	56.74	
2.1.3 Use of virtual social networks	103	26.78	
2.1.4 Tertiary enrollment	107	6.41	
2.1.5 Adult literacy rate	99	42.65	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	54	48.35	
2.2.1 Firms with website	67	45.40	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	100	14.16	
2.2.4 Annual investment in telecommunication services	25	85.50	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	104	25.14	
2.3.1 Government online services	87	52.01	
2.3.2 Publication and use of open data	100	2.94	○
2.3.3 Government promotion of investment in emerging tech	53	42.84	
2.3.4 R&D expenditure by governments and higher education	96	2.78	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	105	0.00	○
3.3.5 Rural gap in use of digital payments	125	5.25	○
D. Impact pillar	93	46.74	
1st sub-pillar: Economy	41	36.11	
4.1.1 High-tech and medium-high-tech manufacturing	59	25.11	
4.1.2 High-tech exports	105	2.45	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	22	70.98	●
4.1.5 Prevalence of gig economy	53	45.35	
4.1.6 ICT services exports	22	36.69	●
2nd sub-pillar: Quality of Life	98	57.68	
4.2.1 Happiness	101	39.70	
4.2.2 Freedom to make life choices	87	64.82	
4.2.3 Income inequality	21	83.92	●
4.2.4 Healthy life expectancy at birth	114	42.29	
3rd sub-pillar: SDG Contribution	117	46.43	
4.3.1 SDG 3: Good Health and Well-Being	120	27.44	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	122	41.59	
4.3.4 SDG 7: Affordable and Clean Energy	88	66.55	
4.3.5 SDG 11: Sustainable Cities and Communities	91	50.12	

NOTE: ● a strength and ○ a weakness.

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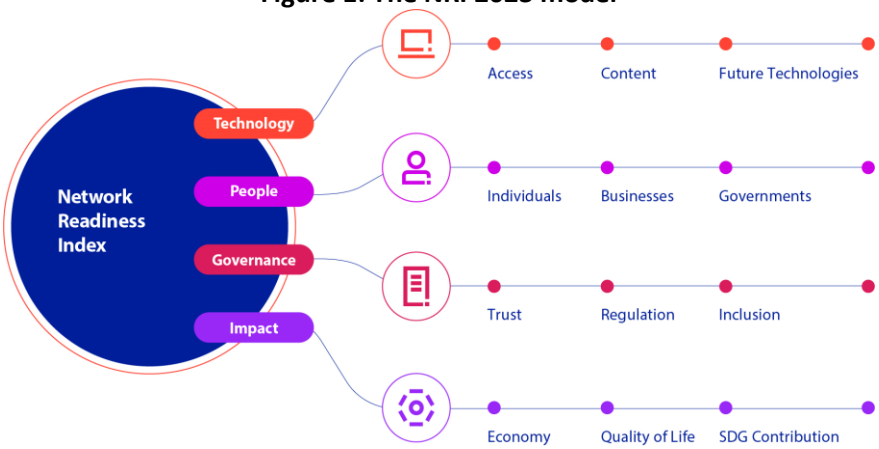
Panama

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

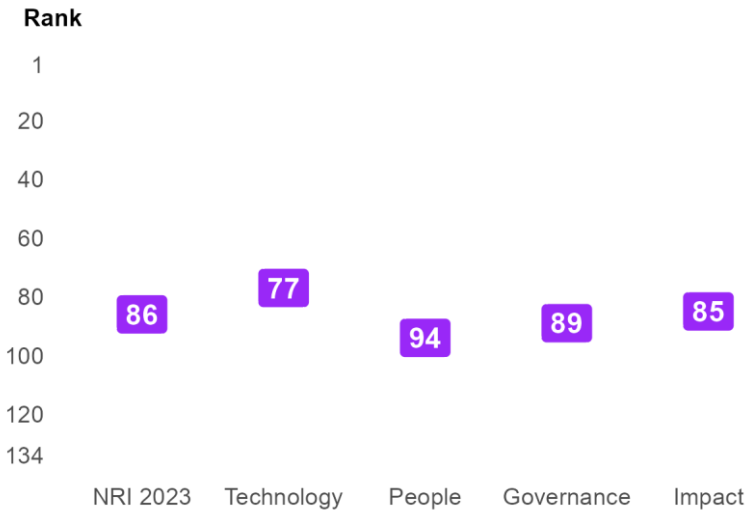
Figure 1: The NRI 2023 model



Global NRI position of Panama

Panama ranks 86th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Panama global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Panama relate to Individuals, SDG Contribution and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Businesses sub-pillars.

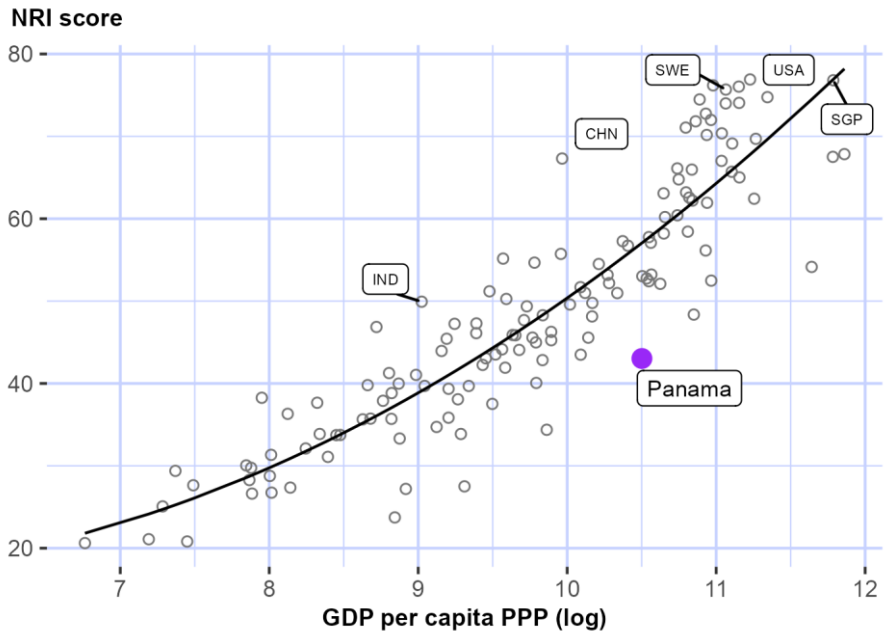
Table 1: Panama rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	51	Regulation	83
SDG Contribution	58	Inclusion	88
Future Technologies	60	Governments	89
Content	70	Trust	100
Quality of Life	74	Economy	109
Access	83	Businesses	123

NRI score and income

Figure 3 shows the position of Panama in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Panama is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Panama belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Panama is ranked 48th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

The Americas

Panama is ranked 14th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Technology. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Future Technologies and Individuals.

Figure 4: Performance of Panama against its income group and region, overall and by pillar

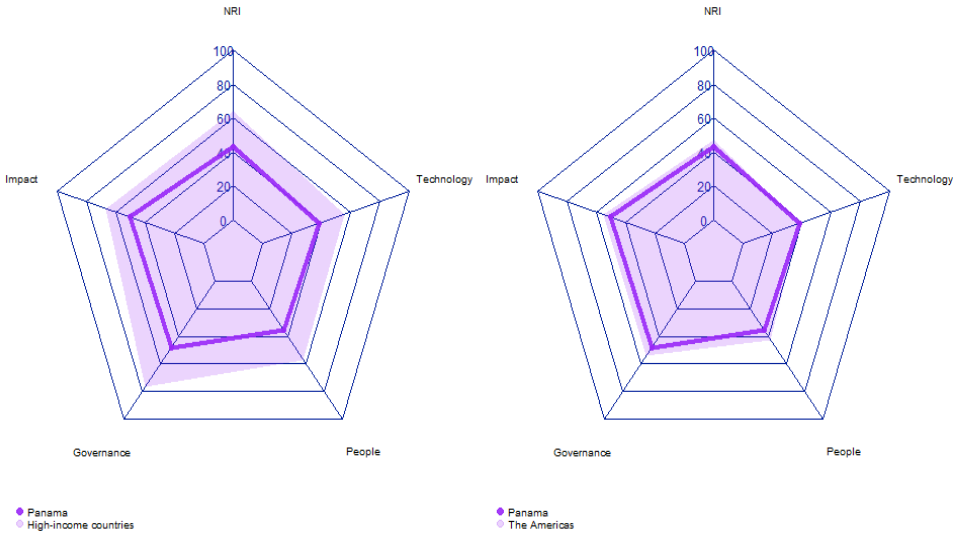


Table 2: Panama scores vs. averages of its income group and region, overall and by pillar

Dimension	Panama	High-income countries	The Americas
NRI	43.03	64.07	47.41
Technology	38.25	55.76	38.24
People	35.34	56.99	42.35
Governance	48.36	76.81	54.12
Impact	50.17	66.73	54.93

Strongest and weakest indicators

The indicators where Panama performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 3.3.4 Gender gap in Internet use, and 1.1.2 Handset prices (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 1.2.4 AI scientific publications, and 2.1.2 ICT skills in the education system.

Table 3: Highlight of Strengths and Opportunities for Panama

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	4	4.3.2 SDG 4: Quality Education	73
3.3.4 Gender gap in Internet use	23	2.2.5 GERD performed by business enterprise	92
1.1.2 Handset prices	24	2.1.2 ICT skills in the education system	98
4.2.2 Freedom to make life choices	26	1.2.4 AI scientific publications	122
4.3.5 SDG 11: Sustainable Cities and Communities	33	4.1.2 High-tech exports	129
1.2.2 Internet domain registrations	37		
4.2.4 Healthy life expectancy at birth	37		
4.3.1 SDG 3: Good Health and Well-Being	42		
2.1.5 Adult literacy rate	45		
4.2.1 Happiness	55		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Panama

Network Readiness Index — Rank: 86 (out of 134) — Score: 43.03

Pillar/sub-pillar	Rank	Score
A. Technology pillar	77	38.25
1st sub-pillar: Access	83	57.85
2nd sub-pillar: Content	70	22.22
3rd sub-pillar: Future Technologies	60	34.68
B. People pillar	94	35.34
1st sub-pillar: Individuals	51	51.04
2nd sub-pillar: Businesses	123	22.98
3rd sub-pillar: Governments	89	32.00

Pillar/sub-pillar	Rank	Score
C. Governance pillar	89	48.36
1st sub-pillar: Trust	100	29.91
2nd sub-pillar: Regulation	83	61.97
3rd sub-pillar: Inclusion	88	53.19
D. Impact pillar	85	50.17
1st sub-pillar: Economy	109	16.80
2nd sub-pillar: Quality of Life	74	66.77
3rd sub-pillar: SDG Contribution	58	66.95

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	77	38.25	
1st sub-pillar: Access	83	57.85	
1.1.1 Mobile tariffs	74	58.47	
1.1.2 Handset prices	24	72.51	•
1.1.3 FTTH/building Internet subscriptions	112	6.83	
1.1.4 Population covered by at least a 3G mobile network	93	98.31	
1.1.5 International Internet bandwidth	102	64.40	
1.1.6 Internet access in schools	54	46.58	
2nd sub-pillar: Content	70	22.22	
1.2.1 GitHub commits	78	4.21	
1.2.2 Internet domain registrations	37	17.46	•
1.2.3 Mobile apps development	62	66.94	
1.2.4 AI scientific publications	122	0.26	○
3rd sub-pillar: Future Technologies	60	34.68	
1.3.1 Adoption of emerging technologies	66	47.02	
1.3.2 Investment in emerging technologies	65	40.25	

Indicator	Rank	Score
C. Governance pillar	89	48.36
1st sub-pillar: Trust	100	29.91
3.1.1 Secure Internet servers	61	58.27
3.1.2 Cybersecurity	104	32.95
3.1.3 Online access to financial account	99	13.18
3.1.4 Internet shopping	80	15.26
2nd sub-pillar: Regulation	83	61.97
3.2.1 Regulatory quality	60	53.95
3.2.2 ICT regulatory environment	77	77.06
3.2.3 Regulation of emerging technologies	64	44.16
3.2.4 E-commerce legislation	87	66.67
3.2.5 Privacy protection by law content	59	68.04
3rd sub-pillar: Inclusion	88	53.19
3.3.1 E-Participation	75	50.01
3.3.2 Socioeconomic gap in use of digital payments	110	44.45
3.3.3 Availability of local online content	74	56.01

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	77	16.76	
B. People pillar		94	35.34	
1st sub-pillar: Individuals		51	51.04	
2.1.1	Mobile broadband internet traffic within the country	NA	NA	
2.1.2	ICT skills in the education system	98	21.76	○
2.1.3	Use of virtual social networks	74	60.12	
2.1.4	Tertiary enrollment	71	28.12	
2.1.5	Adult literacy rate	45	94.18	●
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		123	22.98	
2.2.1	Firms with website	NA	NA	
2.2.2	GERD financed by business enterprise	91	1.41	
2.2.3	Knowledge intensive employment	101	13.28	
2.2.4	Annual investment in telecommunication services	72	77.22	
2.2.5	GERD performed by business enterprise	92	0.00	○
3rd sub-pillar: Governments		89	32.00	
2.3.1	Government online services	71	63.98	
2.3.2	Publication and use of open data	55	32.35	
2.3.3	Government promotion of investment in emerging tech	93	28.86	
2.3.4	R&D expenditure by governments and higher education	94	2.80	

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	23	72.59	●
3.3.5	Rural gap in use of digital payments	99	42.90	
D. Impact pillar		85	50.17	
1st sub-pillar: Economy		109	16.80	
4.1.1	High-tech and medium-high-tech manufacturing	94	7.52	
4.1.2	High-tech exports	129	0.22	○
4.1.3	PCT patent applications	72	2.04	
4.1.4	Domestic market size	76	48.98	
4.1.5	Prevalence of gig economy	89	31.98	
4.1.6	ICT services exports	78	10.04	
2nd sub-pillar: Quality of Life		74	66.77	
4.2.1	Happiness	55	67.46	●
4.2.2	Freedom to make life choices	26	87.34	●
4.2.3	Income inequality	107	30.40	
4.2.4	Healthy life expectancy at birth	37	81.88	●
3rd sub-pillar: SDG Contribution		58	66.95	
4.3.1	SDG 3: Good Health and Well-Being	42	80.25	●
4.3.2	SDG 4: Quality Education	73	12.53	○
4.3.3	SDG 5: Women's economic opportunity	85	70.80	
4.3.4	SDG 7: Affordable and Clean Energy	4	89.96	●
4.3.5	SDG 11: Sustainable Cities and Communities	33	81.21	●

NOTE: ● a strength and ○ a weakness.

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Paraguay

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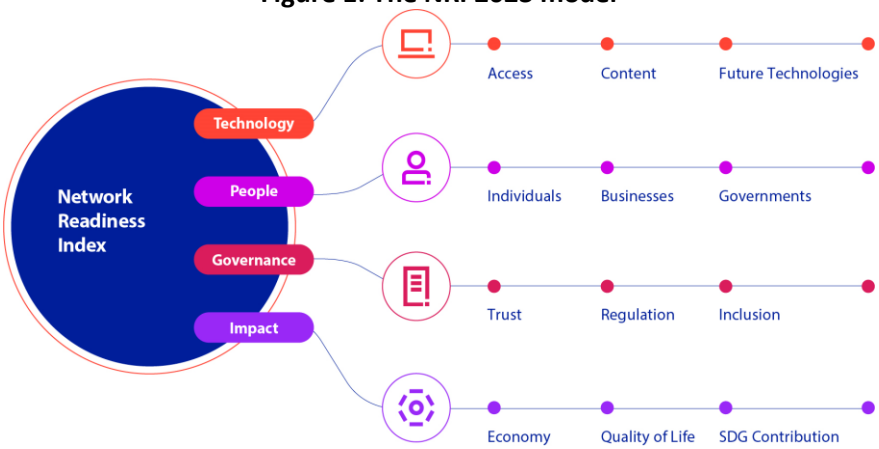
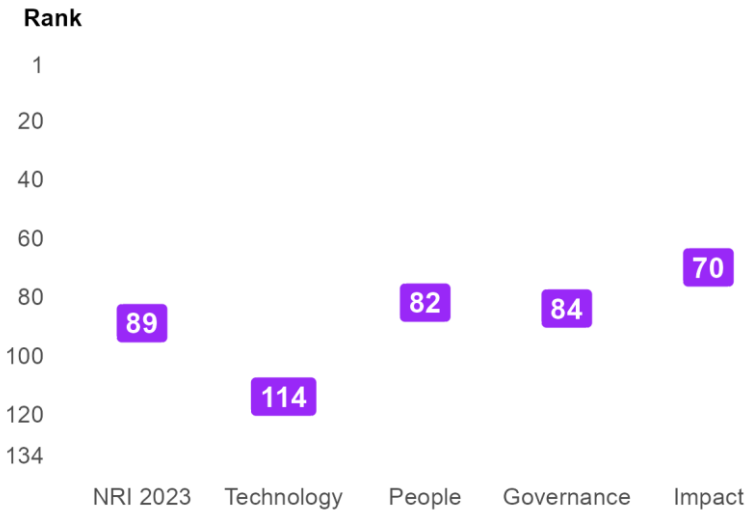
Figure 1: The NRI 2023 model



Global NRI position of Paraguay

Paraguay ranks 89th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Paraguay global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Paraguay relate to SDG Contribution, Quality of Life and Individuals, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Economy and Future Technologies sub-pillars.

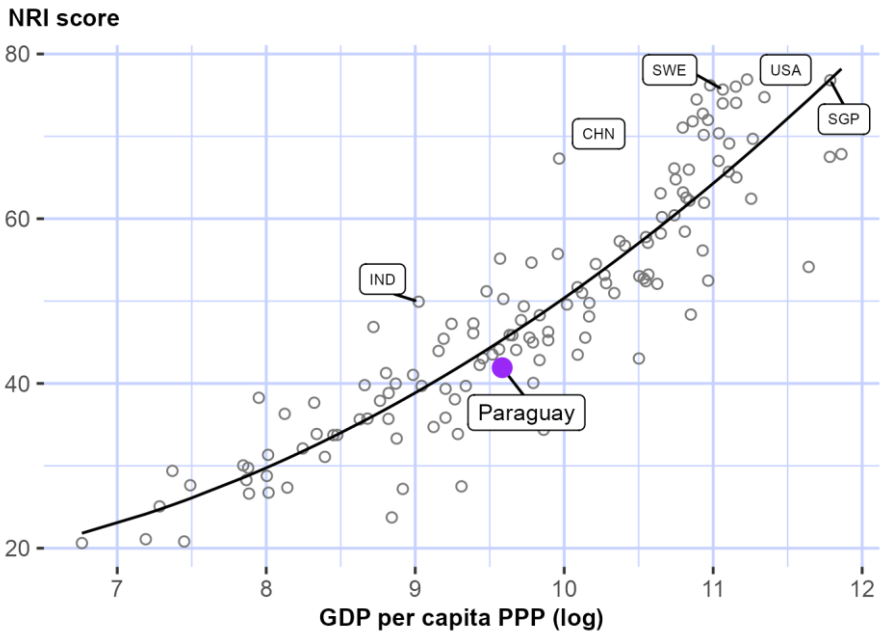
Table 1: Paraguay rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	47	Trust	98
Quality of Life	58	Governments	101
Individuals	66	Content	103
Businesses	69	Access	106
Inclusion	75	Economy	110
Regulation	90	Future Technologies	124

NRI score and income

Figure 3 shows the position of Paraguay in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Paraguay is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Paraguay belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Paraguay is ranked 28th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in three of the twelve sub-pillars: Businesses, Quality of Life and SDG Contribution.

The Americas

Paraguay is ranked 15th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Businesses, Quality of Life and SDG Contribution.

Figure 4: Performance of Paraguay against its income group and region, overall and by pillar

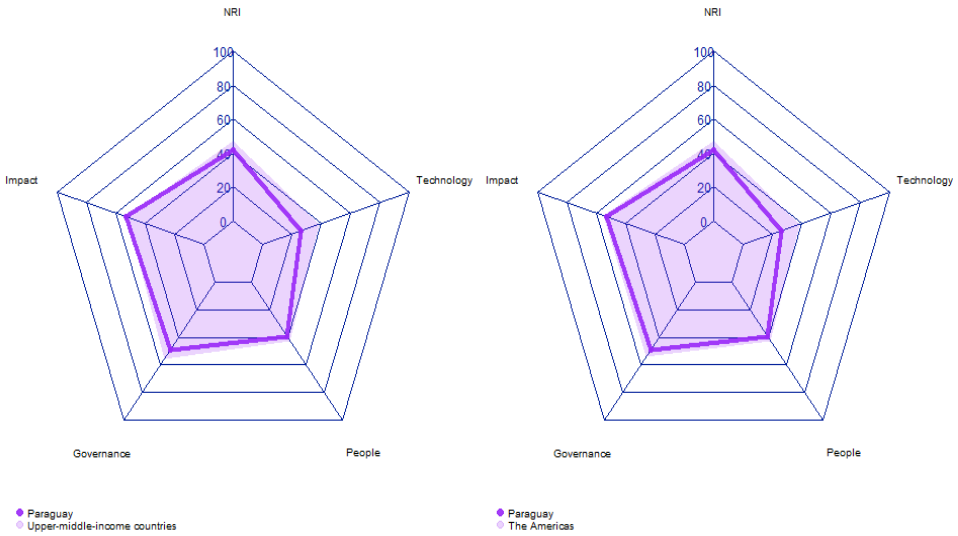


Table 2: Paraguay scores vs. averages of its income group and region, overall and by pillar

Dimension	Paraguay	Upper-middle-income countries	The Americas
NRI	41.91	47.35	47.41
Technology	26.23	38.48	38.24
People	39.17	42.59	42.35
Governance	49.36	55.90	54.12
Impact	52.89	52.43	54.93

Strongest and weakest indicators

The indicators where Paraguay performs particularly well include 3.2.4 E-commerce legislation, 3.3.4 Gender gap in Internet use, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.1.5 Prevalence of gig economy, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Paraguay

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.2 GERD financed by business enterprise	97
3.3.4 Gender gap in Internet use	6	2.1.2 ICT skills in the education system	104
4.2.2 Freedom to make life choices	15	2.3.3 Government promotion of investment in emerging technologies	121
4.3.3 SDG 5: Women's economic opportunity	27	4.1.5 Prevalence of gig economy	123
2.2.1 Firms with website	29	4.1.6 ICT services exports	129
3.2.5 Privacy protection by law content	36		
2.3.2 Publication and use of open data	41		
4.2.1 Happiness	47		
4.3.4 SDG 7: Affordable and Clean Energy	50		
1.1.3 FTTH/building Internet subscriptions	54		
4.1.2 High-tech exports	60		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Paraguay

Network Readiness Index Rank: 89 (out of 134) Score: 41.91

Pillar/sub-pillar	Rank	Score
A. Technology pillar	114	26.23
1st sub-pillar: Access	106	47.02
2nd sub-pillar: Content	103	14.62
3rd sub-pillar: Future Technologies	124	17.05
B. People pillar	82	39.17
1st sub-pillar: Individuals	66	47.16
2nd sub-pillar: Businesses	69	44.35
3rd sub-pillar: Governments	101	26.02

Pillar/sub-pillar	Rank	Score
C. Governance pillar	84	49.36
1st sub-pillar: Trust	98	30.83
2nd sub-pillar: Regulation	90	59.88
3rd sub-pillar: Inclusion	75	57.37
D. Impact pillar	70	52.89
1st sub-pillar: Economy	110	16.25
2nd sub-pillar: Quality of Life	58	71.05
3rd sub-pillar: SDG Contribution	47	71.37

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	114	26.23	
1st sub-pillar: Access	106	47.02	
1.1.1 Mobile tariffs	90	47.87	
1.1.2 Handset prices	88	38.28	
1.1.3 FTTH/building Internet subscriptions	54	31.66	•
1.1.4 Population covered by at least a 3G mobile network	73	99.49	
1.1.5 International Internet bandwidth	118	59.38	
1.1.6 Internet access in schools	78	5.41	
2nd sub-pillar: Content	103	14.62	
1.2.1 GitHub commits	91	2.91	
1.2.2 Internet domain registrations	84	1.86	
1.2.3 Mobile apps development	100	53.19	
1.2.4 AI scientific publications	114	0.50	
3rd sub-pillar: Future Technologies	124	17.05	
1.3.1 Adoption of emerging technologies	105	28.79	
1.3.2 Investment in emerging technologies	121	19.00	

Indicator	Rank	Score	
C. Governance pillar	84	49.36	
1st sub-pillar: Trust	98	30.83	
3.1.1 Secure Internet servers	69	49.78	
3.1.2 Cybersecurity	90	56.33	
3.1.3 Online access to financial account	107	10.29	
3.1.4 Internet shopping	103	6.91	
2nd sub-pillar: Regulation	90	59.88	
3.2.1 Regulatory quality	81	44.91	
3.2.2 ICT regulatory environment	119	59.06	
3.2.3 Regulation of emerging technologies	107	17.14	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	36	78.30	•
3rd sub-pillar: Inclusion	75	57.37	
3.3.1 E-Participation	75	50.01	
3.3.2 Socioeconomic gap in use of digital payments	65	76.27	
3.3.3 Availability of local online content	105	37.26	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	109	3.37	
B. People pillar	82	39.17	
1st sub-pillar: Individuals	66	47.16	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	104	13.05	○
2.1.3 Use of virtual social networks	71	61.49	
2.1.4 Tertiary enrollment	83	21.54	
2.1.5 Adult literacy rate	53	92.55	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	69	44.35	
2.2.1 Firms with website	29	71.74	●
2.2.2 GERD financed by business enterprise	97	0.30	○
2.2.3 Knowledge intensive employment	71	29.07	
2.2.4 Annual investment in telecommunication services	78	76.29	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	101	26.02	
2.3.1 Government online services	84	56.44	
2.3.2 Publication and use of open data	41	38.24	●
2.3.3 Government promotion of investment in emerging tech	121	6.74	○
2.3.4 R&D expenditure by governments and higher education	97	2.65	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	6	77.50	●
3.3.5 Rural gap in use of digital payments	96	45.81	
D. Impact pillar	70	52.89	
1st sub-pillar: Economy	110	16.25	
4.1.1 High-tech and medium-high-tech manufacturing	75	17.18	
4.1.2 High-tech exports	60	13.21	●
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	87	45.09	
4.1.5 Prevalence of gig economy	123	4.94	○
4.1.6 ICT services exports	129	0.83	○
2nd sub-pillar: Quality of Life	58	71.05	
4.2.1 Happiness	47	70.40	●
4.2.2 Freedom to make life choices	15	91.08	●
4.2.3 Income inequality	93	50.50	
4.2.4 Healthy life expectancy at birth	68	72.22	
3rd sub-pillar: SDG Contribution	47	71.37	
4.3.1 SDG 3: Good Health and Well-Being	95	54.31	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	27	92.04	●
4.3.4 SDG 7: Affordable and Clean Energy	50	75.43	●
4.3.5 SDG 11: Sustainable Cities and Communities	71	63.70	

NOTE: ● a strength and ○ a weakness.

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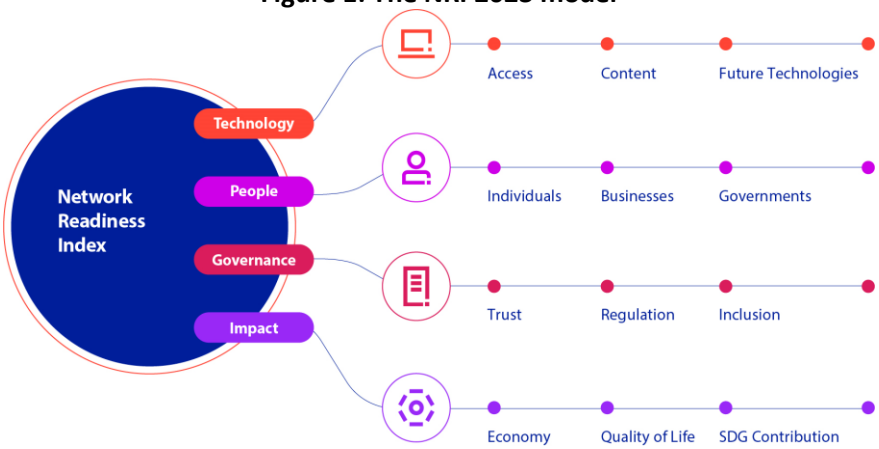
Peru

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

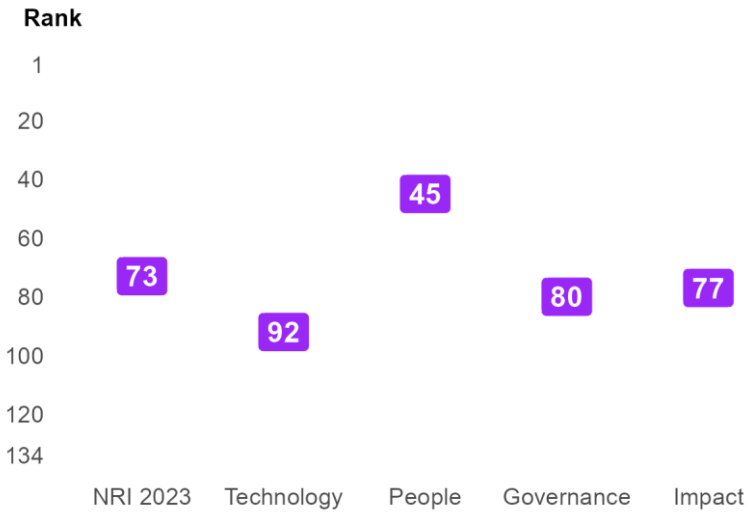
Figure 1: The NRI 2023 model



Global NRI position of Peru

Peru ranks 73rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Peru global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Peru relate to Businesses, Individuals and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Future Technologies sub-pillars.

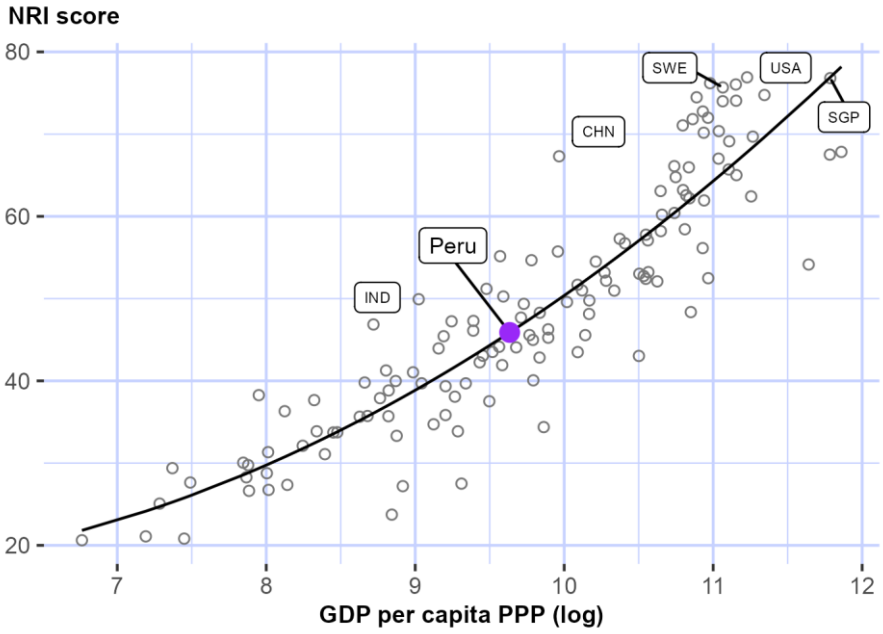
Table 1: Peru rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	38	Regulation	82
Individuals	42	Access	84
SDG Contribution	49	Content	86
Quality of Life	67	Trust	93
Governments	75	Economy	104
Inclusion	79	Future Technologies	107

NRI score and income

Figure 3 shows the position of Peru in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Peru is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Peru belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Peru is ranked 20th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: People. At the sub-pillar level, it outperforms upper-middle-income countries in four of the twelve sub-pillars: Individuals, Businesses, Quality of Life and SDG Contribution.

The Americas

Peru is ranked 11th within The Americas (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in The Americas in three of the twelve sub-pillars: Individuals, Businesses and SDG Contribution.

Figure 4: Performance of Peru against its income group and region, overall and by pillar

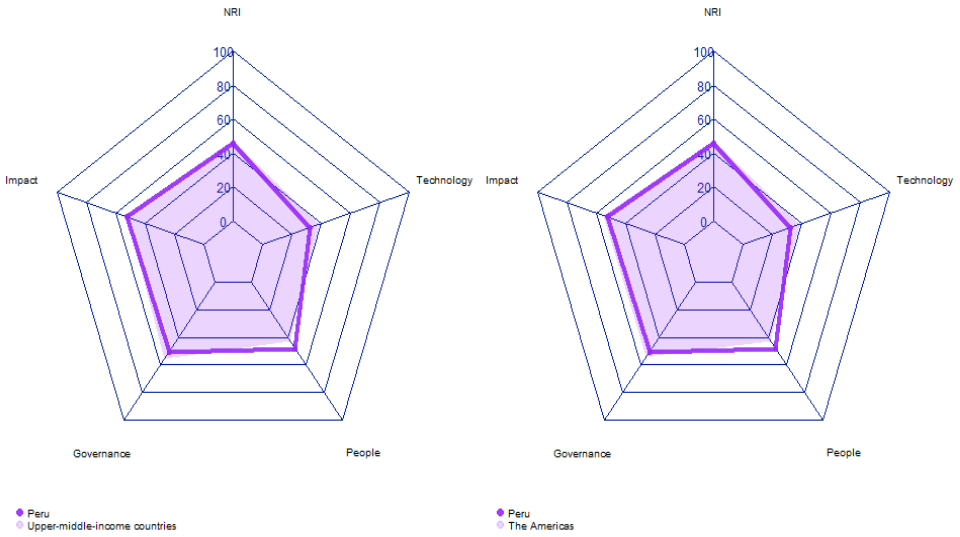


Table 2: Peru scores vs. averages of its income group and region, overall and by pillar

Dimension	Peru	Upper-middle-income countries	The Americas
NRI	45.89	47.35	47.41
Technology	32.55	38.48	38.24
People	48.33	42.59	42.35
Governance	50.57	55.90	54.12
Impact	52.10	52.43	54.93

Strongest and weakest indicators

The indicators where Peru performs particularly well include 3.2.4 E-commerce legislation, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.3.1 E-Participation (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.1.5 Prevalence of gig economy, and 1.1.4 Population covered by at least a 3G mobile network.

Table 3: Highlight of Strengths and Opportunities for Peru

Strongest indicators	Rank
3.2.4 E-commerce legislation	1
4.3.4 SDG 7: Affordable and Clean Energy	20
3.3.1 E-Participation	22
4.3.3 SDG 5: Women's economic opportunity	25
4.2.4 Healthy life expectancy at birth	32
2.1.4 Tertiary enrollment	33
2.2.1 Firms with website	36
4.3.1 SDG 3: Good Health and Well-Being	36
2.3.1 Government online services	37
1.1.3 FTTH/building Internet subscriptions	42
4.1.4 Domestic market size	45

Weakest indicators	Rank
1.3.3 Robot density	56
3.1.3 Online access to financial account	108
1.1.4 Population covered by at least a 3G mobile network	112
4.1.5 Prevalence of gig economy	113
4.1.6 ICT services exports	122

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Peru

Network Readiness Index Rank: 73 (out of 134) Score: 45.89

Pillar/sub-pillar	Rank	Score
A. Technology pillar	92	32.55
1st sub-pillar: Access	84	57.63
2nd sub-pillar: Content	86	18.53
3rd sub-pillar: Future Technologies	107	21.49
B. People pillar	45	48.33
1st sub-pillar: Individuals	42	52.56
2nd sub-pillar: Businesses	38	56.82
3rd sub-pillar: Governments	75	35.62

Pillar/sub-pillar	Rank	Score
C. Governance pillar	80	50.57
1st sub-pillar: Trust	93	33.04
2nd sub-pillar: Regulation	82	62.03
3rd sub-pillar: Inclusion	79	56.62
D. Impact pillar	77	52.10
1st sub-pillar: Economy	104	17.47
2nd sub-pillar: Quality of Life	67	68.15
3rd sub-pillar: SDG Contribution	49	70.67

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	92	32.55	
1st sub-pillar: Access	84	57.63	
1.1.1 Mobile tariffs	84	51.62	
1.1.2 Handset prices	71	44.25	
1.1.3 FTTH/building Internet subscriptions	42	37.24	●
1.1.4 Population covered by at least a 3G mobile network	112	95.12	○
1.1.5 International Internet bandwidth	75	69.60	
1.1.6 Internet access in schools	53	47.92	
2nd sub-pillar: Content	86	18.53	
1.2.1 GitHub commits	71	5.20	
1.2.2 Internet domain registrations	67	3.57	
1.2.3 Mobile apps development	83	60.83	
1.2.4 AI scientific publications	72	4.50	
3rd sub-pillar: Future Technologies	107	21.49	
1.3.1 Adoption of emerging technologies	84	38.64	
1.3.2 Investment in emerging technologies	109	25.25	

Indicator	Rank	Score	
C. Governance pillar	80	50.57	
1st sub-pillar: Trust	93	33.04	
3.1.1 Secure Internet servers	74	48.76	
3.1.2 Cybersecurity	91	54.89	
3.1.3 Online access to financial account	108	10.13	○
3.1.4 Internet shopping	72	18.38	
2nd sub-pillar: Regulation	82	62.03	
3.2.1 Regulatory quality	67	51.47	
3.2.2 ICT regulatory environment	58	84.71	
3.2.3 Regulation of emerging technologies	98	24.42	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	99	49.58	
3rd sub-pillar: Inclusion	79	56.62	
3.3.1 E-Participation	22	75.59	●
3.3.2 Socioeconomic gap in use of digital payments	88	58.83	
3.3.3 Availability of local online content	99	40.38	

Indicator	Rank	Score	
1.3.3 Robot density	56	0.00	○
1.3.4 Computer software spending	63	22.08	
B. People pillar	45	48.33	
1st sub-pillar: Individuals	42	52.56	
2.1.1 Mobile broadband internet traffic within the country	54	11.55	
2.1.2 ICT skills in the education system	74	43.84	
2.1.3 Use of virtual social networks	51	69.01	
2.1.4 Tertiary enrollment	33	45.91	●
2.1.5 Adult literacy rate	54	92.49	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	38	56.82	
2.2.1 Firms with website	36	68.97	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	87	19.85	
2.2.4 Annual investment in telecommunication services	43	81.65	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	75	35.62	
2.3.1 Government online services	37	78.99	●
2.3.2 Publication and use of open data	47	35.29	
2.3.3 Government promotion of investment in emerging tech	100	25.28	
2.3.4 R&D expenditure by governments and higher education	93	2.92	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	81	62.30	
3.3.5 Rural gap in use of digital payments	94	46.01	
D. Impact pillar	77	52.10	
1st sub-pillar: Economy	104	17.47	
4.1.1 High-tech and medium-high-tech manufacturing	82	13.74	
4.1.2 High-tech exports	78	8.45	
4.1.3 PCT patent applications	68	2.56	
4.1.4 Domestic market size	45	60.61	●
4.1.5 Prevalence of gig economy	113	18.02	○
4.1.6 ICT services exports	122	1.43	○
2nd sub-pillar: Quality of Life	67	68.15	
4.2.1 Happiness	63	65.83	
4.2.2 Freedom to make life choices	86	64.86	
4.2.3 Income inequality	78	57.29	
4.2.4 Healthy life expectancy at birth	32	84.60	●
3rd sub-pillar: SDG Contribution	49	70.67	
4.3.1 SDG 3: Good Health and Well-Being	36	81.99	●
4.3.2 SDG 4: Quality Education	63	27.52	
4.3.3 SDG 5: Women's economic opportunity	25	92.92	●
4.3.4 SDG 7: Affordable and Clean Energy	20	81.21	●
4.3.5 SDG 11: Sustainable Cities and Communities	56	69.72	

NOTE: ● a strength and ○ a weakness.

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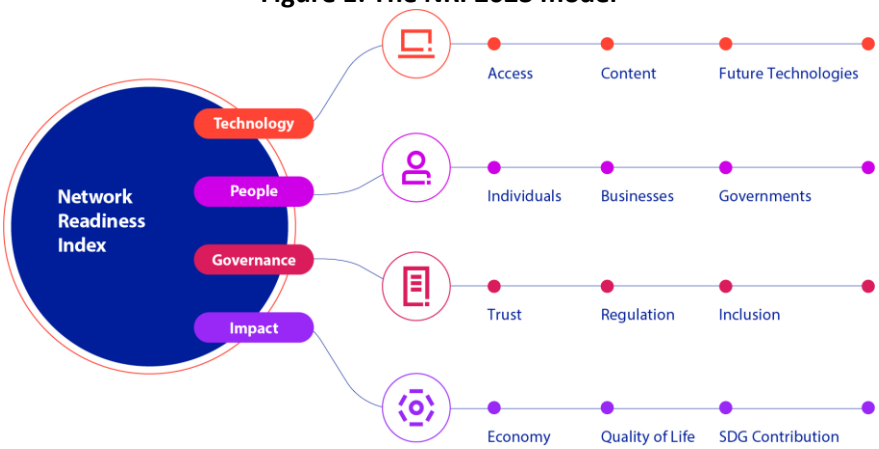
Philippines

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

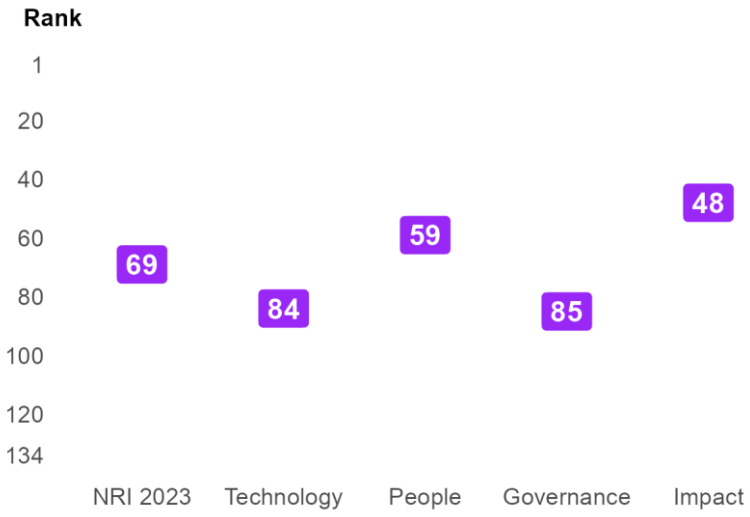
Figure 1: The NRI 2023 model



Global NRI position of Philippines

Philippines ranks 69th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Philippines global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Philippines relate to Economy, Individuals and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Inclusion and SDG Contribution sub-pillars.

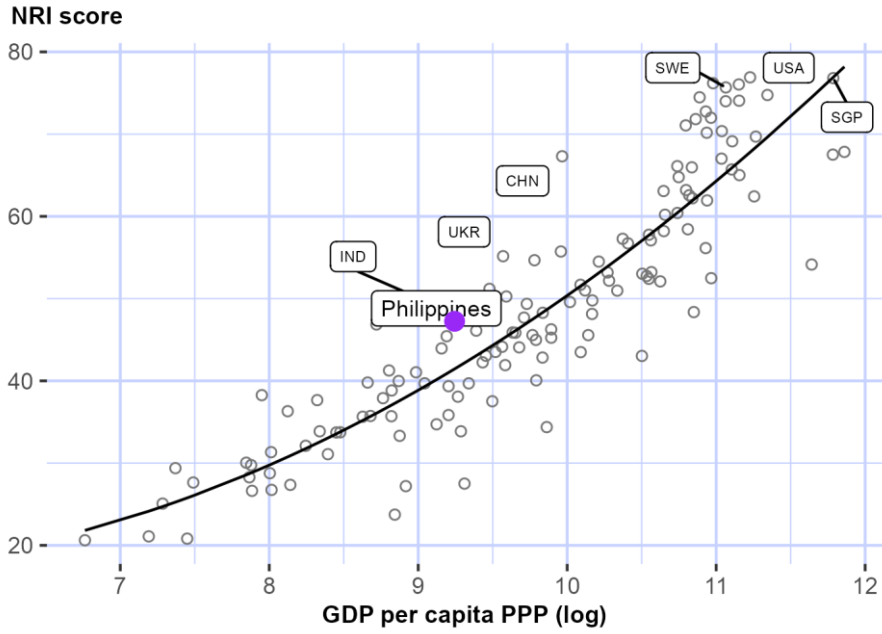
Table 1: Philippines rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	14	Content	72
Individuals	23	Businesses	79
Future Technologies	62	Regulation	88
Governments	68	Access	93
Quality of Life	69	Inclusion	105
Trust	70	SDG Contribution	113

NRI score and income

Figure 3 shows the position of Philippines in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Philippines is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Philippines belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Philippines is ranked 5th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Economy and Quality of Life.

Asia & Pacific

Philippines is ranked 13th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in two of the twelve sub-pillars: Individuals and Economy.

Figure 4: Performance of Philippines against its income group and region, overall and by pillar

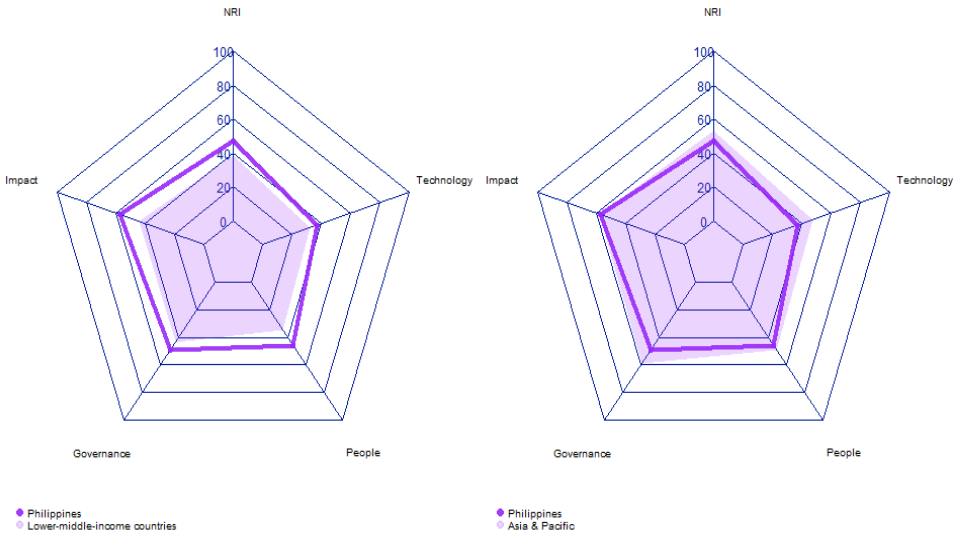


Table 2: Philippines scores vs. averages of its income group and region, overall and by pillar

Dimension	Philippines	Lower-middle-income countries	Asia & Pacific
NRI	47.24	38.41	53.28
Technology	36.81	32.12	47.34
People	45.64	34.38	48.95
Governance	49.09	43.27	59.22
Impact	57.41	43.89	57.62

Strongest and weakest indicators

The indicators where Philippines performs particularly well include 3.2.4 E-commerce legislation, 4.1.2 High-tech exports, and 4.1.6 ICT services exports (Table 3). By contrast, the economy's weakest indicators include 1.1.2 Handset prices, 3.3.2 Socioeconomic gap in use of digital payments, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Philippines

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	50
4.1.2 High-tech exports	1	4.3.2 SDG 4: Quality Education	75
4.1.6 ICT services exports	17	3.3.2 Socioeconomic gap in use of digital payments	117
2.1.1 Mobile broadband internet traffic within the country	19	3.3.5 Rural gap in use of digital payments	117
4.2.2 Freedom to make life choices	21	1.1.2 Handset prices	131
4.3.4 SDG 7: Affordable and Clean Energy	25		
4.1.1 High-tech and medium-high-tech manufacturing	26		
2.3.2 Publication and use of open data	27		
4.1.4 Domestic market size	29		
1.3.2 Investment in emerging technologies	31		
2.2.4 Annual investment in telecommunication services	33		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Philippines

Network Readiness Index Rank: 69 (out of 134) Score: 47.24

Pillar/sub-pillar	Rank	Score
A. Technology pillar	84	36.81
1st sub-pillar: Access	93	54.17
2nd sub-pillar: Content	72	22.09
3rd sub-pillar: Future Technologies	62	34.17
B. People pillar	59	45.64
1st sub-pillar: Individuals	23	57.12
2nd sub-pillar: Businesses	79	41.31
3rd sub-pillar: Governments	68	38.50

Pillar/sub-pillar	Rank	Score
C. Governance pillar	85	49.09
1st sub-pillar: Trust	70	42.18
2nd sub-pillar: Regulation	88	60.91
3rd sub-pillar: Inclusion	105	44.18
D. Impact pillar	48	57.41
1st sub-pillar: Economy	14	54.33
2nd sub-pillar: Quality of Life	69	67.76
3rd sub-pillar: SDG Contribution	113	50.15

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	84	36.81	
1st sub-pillar: Access	93	54.17	
1.1.1 Mobile tariffs	61	63.63	
1.1.2 Handset prices	131	3.71	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	87	98.66	
1.1.5 International Internet bandwidth	53	73.78	
1.1.6 Internet access in schools	62	31.08	
2nd sub-pillar: Content	72	22.09	
1.2.1 GitHub commits	84	3.46	
1.2.2 Internet domain registrations	102	0.79	
1.2.3 Mobile apps development	42	72.07	
1.2.4 AI scientific publications	41	12.03	
3rd sub-pillar: Future Technologies	62	34.17	
1.3.1 Adoption of emerging technologies	52	51.83	
1.3.2 Investment in emerging technologies	31	61.00	●

Indicator	Rank	Score	
C. Governance pillar	85	49.09	
1st sub-pillar: Trust	70	42.18	
3.1.1 Secure Internet servers	100	37.56	
3.1.2 Cybersecurity	69	76.60	
3.1.3 Online access to financial account	98	13.55	
3.1.4 Internet shopping	50	41.03	
2nd sub-pillar: Regulation	88	60.91	
3.2.1 Regulatory quality	68	51.33	
3.2.2 ICT regulatory environment	109	64.94	
3.2.3 Regulation of emerging technologies	94	26.49	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	72	61.81	
3rd sub-pillar: Inclusion	105	44.18	
3.3.1 E-Participation	79	47.67	
3.3.2 Socioeconomic gap in use of digital payments	117	39.89	○
3.3.3 Availability of local online content	50	67.55	

Indicator	Rank	Score	
1.3.3 Robot density	50	0.79	○
1.3.4 Computer software spending	57	23.08	
B. People pillar	59	45.64	
1st sub-pillar: Individuals	23	57.12	
2.1.1 Mobile broadband internet traffic within the country	19	37.91	●
2.1.2 ICT skills in the education system	37	62.43	
2.1.3 Use of virtual social networks	57	68.23	
2.1.4 Tertiary enrollment	81	22.14	
2.1.5 Adult literacy rate	42	94.92	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	79	41.31	
2.2.1 Firms with website	60	49.56	
2.2.2 GERD financed by business enterprise	47	46.96	
2.2.3 Knowledge intensive employment	82	24.05	
2.2.4 Annual investment in telecommunication services	33	84.52	●
2.2.5 GERD performed by business enterprise	67	1.46	
3rd sub-pillar: Governments	68	38.50	
2.3.1 Government online services	76	59.14	
2.3.2 Publication and use of open data	27	50.00	●
2.3.3 Government promotion of investment in emerging tech	59	39.22	
2.3.4 R&D expenditure by governments and higher education	74	5.63	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	117	21.61	○
D. Impact pillar	48	57.41	
1st sub-pillar: Economy	14	54.33	
4.1.1 High-tech and medium-high-tech manufacturing	26	50.10	●
4.1.2 High-tech exports	1	100.00	●
4.1.3 PCT patent applications	80	1.11	
4.1.4 Domestic market size	29	68.36	●
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	17	48.55	●
2nd sub-pillar: Quality of Life	69	67.76	
4.2.1 Happiness	56	67.19	
4.2.2 Freedom to make life choices	21	88.33	●
4.2.3 Income inequality	81	56.03	
4.2.4 Healthy life expectancy at birth	97	59.48	
3rd sub-pillar: SDG Contribution	113	50.15	
4.3.1 SDG 3: Good Health and Well-Being	103	44.44	
4.3.2 SDG 4: Quality Education	75	6.37	○
4.3.3 SDG 5: Women's economic opportunity	88	69.91	
4.3.4 SDG 7: Affordable and Clean Energy	25	79.99	●
4.3.5 SDG 11: Sustainable Cities and Communities	92	50.03	

NOTE: ● a strength and ○ a weakness.

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Poland

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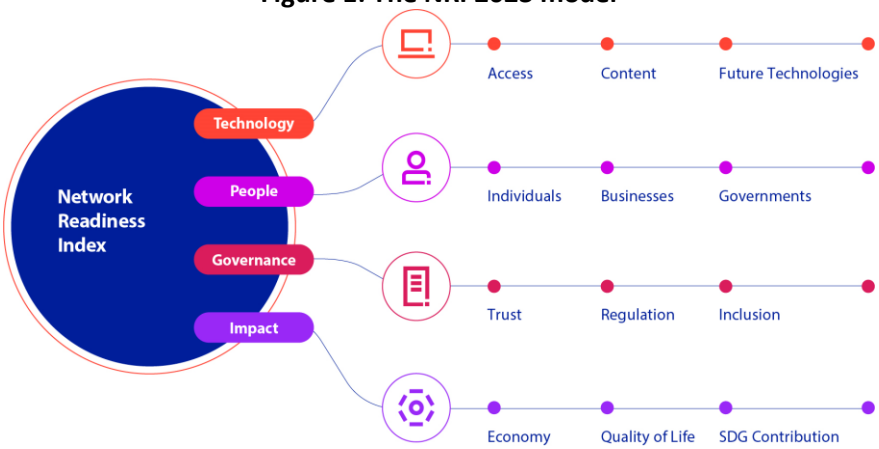
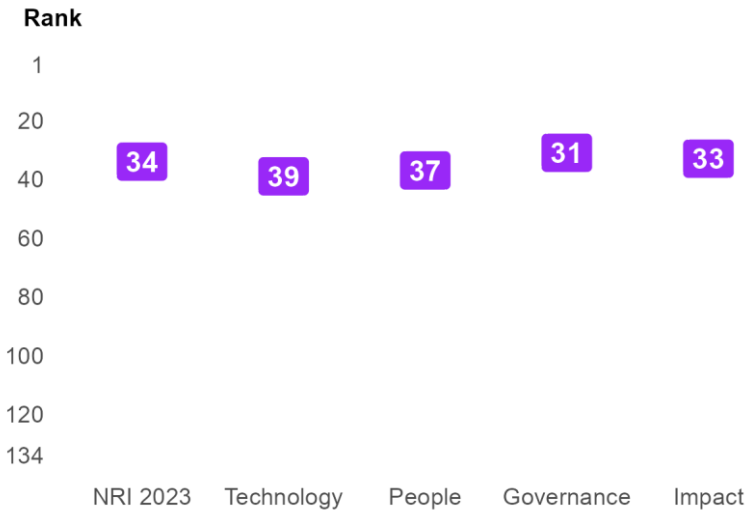
Figure 1: The NRI 2023 model



Global NRI position of Poland

Poland ranks 34th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Poland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Poland relate to Access, Trust and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Governments and Future Technologies sub-pillars.

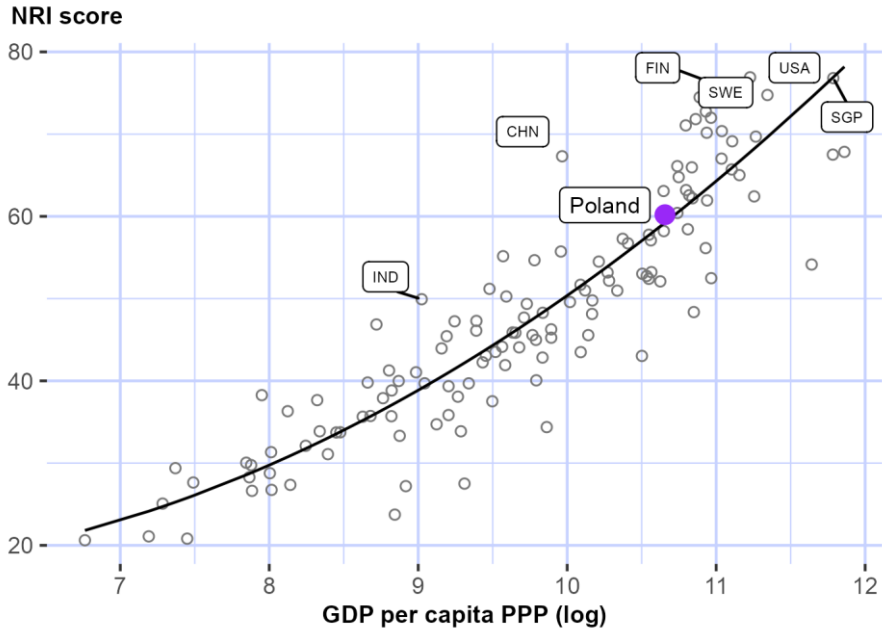
Table 1: Poland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	11	Content	37
Trust	16	Inclusion	41
Quality of Life	27	Economy	45
Businesses	29	Regulation	49
SDG Contribution	32	Governments	51
Individuals	35	Future Technologies	71

NRI score and income

Figure 3 shows the position of Poland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Poland is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Poland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Poland is ranked 33rd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Individuals, Businesses and Trust.

Europe

Poland is ranked 24th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Europe in six of the twelve sub-pillars: Access, Individuals, Businesses, Trust, Quality of Life and SDG Contribution.

Figure 4: Performance of Poland against its income group and region, overall and by pillar

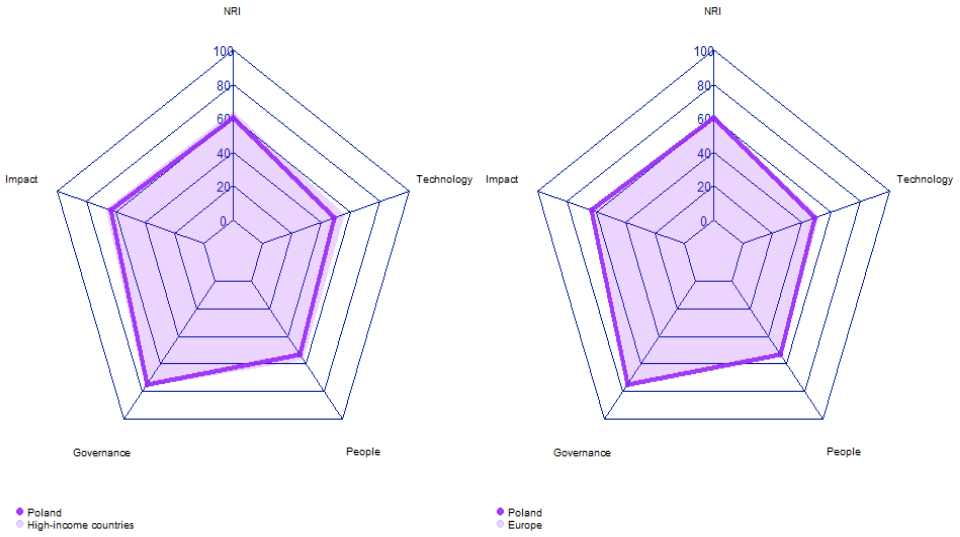


Table 2: Poland scores vs. averages of its income group and region, overall and by pillar

Dimension	Poland	High-income countries	Europe
NRI	60.20	64.07	61.25
Technology	48.95	55.76	51.90
People	53.19	56.99	54.16
Governance	75.16	76.81	74.33
Impact	63.50	66.73	64.61

Strongest and weakest indicators

The indicators where Poland performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.2.3 Regulation of emerging technologies, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Poland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.3.3 Government promotion of investment in emerging technologies	65
1.1.6 Internet access in schools	1	4.2.2 Freedom to make life choices	71
3.2.4 E-commerce legislation	1	1.3.2 Investment in emerging technologies	74
2.1.5 Adult literacy rate	6	3.2.3 Regulation of emerging technologies	74
4.3.2 SDG 4: Quality Education	9		
1.1.2 Handset prices	10		
3.1.3 Online access to financial account	15		
4.2.3 Income inequality	15		
2.1.1 Mobile broadband internet traffic within the country	17		
3.1.4 Internet shopping	18		
1.2.4 AI scientific publications	21		
4.1.4 Domestic market size	21		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Poland

Network Readiness Index — Rank: 34 (out of 134) — Score: 60.20

Pillar/sub-pillar	Rank	Score
A. Technology pillar	39	48.95
1st sub-pillar: Access	11	79.18
2nd sub-pillar: Content	37	36.33
3rd sub-pillar: Future Technologies	71	31.35
B. People pillar	37	53.19
1st sub-pillar: Individuals	35	53.95
2nd sub-pillar: Businesses	29	61.26
3rd sub-pillar: Governments	51	44.37

Pillar/sub-pillar	Rank	Score
C. Governance pillar	31	75.16
1st sub-pillar: Trust	16	80.76
2nd sub-pillar: Regulation	49	71.96
3rd sub-pillar: Inclusion	41	72.76
D. Impact pillar	33	63.50
1st sub-pillar: Economy	45	34.62
2nd sub-pillar: Quality of Life	27	79.70
3rd sub-pillar: SDG Contribution	32	76.17

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	39	48.95	
1st sub-pillar: Access	11	79.18	
1.1.1 Mobile tariffs	31	78.42	
1.1.2 Handset prices	10	82.53	●
1.1.3 FTTH/building Internet subscriptions	29	43.45	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	68	70.66	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	37	36.33	
1.2.1 GitHub commits	34	30.85	
1.2.2 Internet domain registrations	36	18.28	
1.2.3 Mobile apps development	36	73.14	
1.2.4 AI scientific publications	21	23.08	●
3rd sub-pillar: Future Technologies	71	31.35	
1.3.1 Adoption of emerging technologies	61	48.92	
1.3.2 Investment in emerging technologies	74	37.25	○

Indicator	Rank	Score	
C. Governance pillar	31	75.16	
1st sub-pillar: Trust	16	80.76	
3.1.1 Secure Internet servers	26	80.86	
3.1.2 Cybersecurity	37	93.75	
3.1.3 Online access to financial account	15	70.34	●
3.1.4 Internet shopping	18	78.11	●
2nd sub-pillar: Regulation	49	71.96	
3.2.1 Regulatory quality	36	68.58	
3.2.2 ICT regulatory environment	42	87.65	
3.2.3 Regulation of emerging technologies	74	41.04	○
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	70	62.56	
3rd sub-pillar: Inclusion	41	72.76	
3.3.1 E-Participation	51	63.95	
3.3.2 Socioeconomic gap in use of digital payments	35	90.29	
3.3.3 Availability of local online content	52	67.07	

Indicator	Rank	Score	
1.3.3 Robot density	28	9.61	
1.3.4 Computer software spending	40	29.62	
B. People pillar	37	53.19	
1st sub-pillar: Individuals	35	53.95	
2.1.1 Mobile broadband internet traffic within the country	17	38.20	●
2.1.2 ICT skills in the education system	54	54.71	
2.1.3 Use of virtual social networks	69	62.17	
2.1.4 Tertiary enrollment	35	45.73	
2.1.5 Adult literacy rate	6	99.73	●
2.1.6 AI talent concentration	18	23.18	
2nd sub-pillar: Businesses	29	61.26	
2.2.1 Firms with website	31	71.52	
2.2.2 GERD financed by business enterprise	26	62.64	
2.2.3 Knowledge intensive employment	27	63.15	
2.2.4 Annual investment in telecommunication services	23	85.77	
2.2.5 GERD performed by business enterprise	26	23.20	
3rd sub-pillar: Governments	51	44.37	
2.3.1 Government online services	43	77.11	
2.3.2 Publication and use of open data	45	36.76	
2.3.3 Government promotion of investment in emerging tech	65	37.92	○
2.3.4 R&D expenditure by governments and higher education	29	25.70	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	52	68.72	
3.3.5 Rural gap in use of digital payments	35	73.79	
D. Impact pillar	33	63.50	
1st sub-pillar: Economy	45	34.62	
4.1.1 High-tech and medium-high-tech manufacturing	45	33.49	
4.1.2 High-tech exports	52	16.89	
4.1.3 PCT patent applications	39	9.03	
4.1.4 Domestic market size	21	71.52	●
4.1.5 Prevalence of gig economy	47	52.62	
4.1.6 ICT services exports	44	24.16	
2nd sub-pillar: Quality of Life	27	79.70	
4.2.1 Happiness	25	80.23	
4.2.2 Freedom to make life choices	71	70.81	○
4.2.3 Income inequality	15	85.93	●
4.2.4 Healthy life expectancy at birth	38	81.81	
3rd sub-pillar: SDG Contribution	32	76.17	
4.3.1 SDG 3: Good Health and Well-Being	52	74.86	
4.3.2 SDG 4: Quality Education	9	72.98	●
4.3.3 SDG 5: Women's economic opportunity	29	91.15	
4.3.4 SDG 7: Affordable and Clean Energy	61	73.48	
4.3.5 SDG 11: Sustainable Cities and Communities	60	68.39	

NOTE: ● a strength and ○ a weakness.

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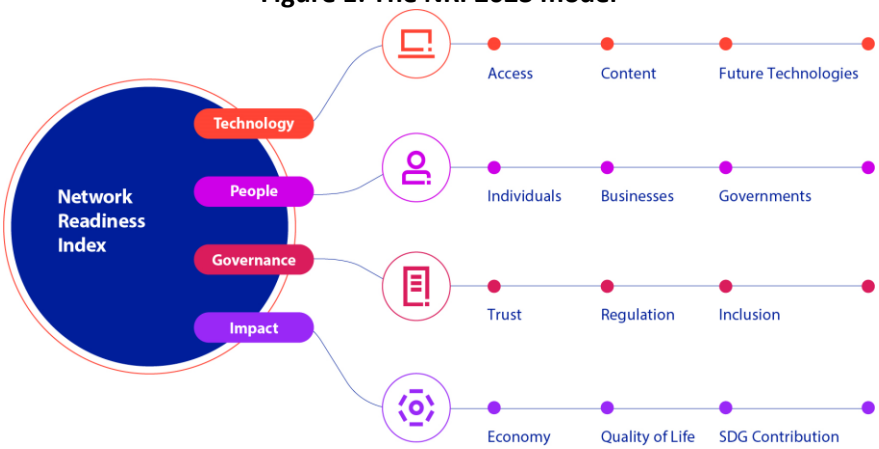
Portugal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

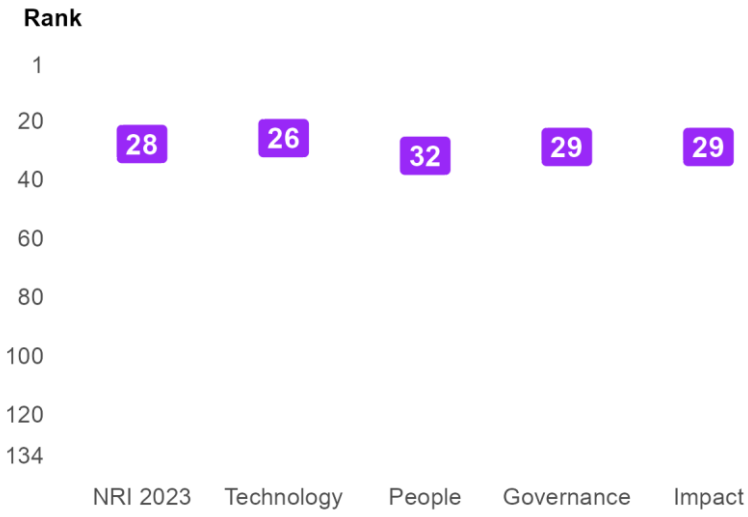
Figure 1: The NRI 2023 model



Global NRI position of Portugal

Portugal ranks 28th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Portugal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Portugal relate to SDG Contribution, Regulation and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Trust and Economy sub-pillars.

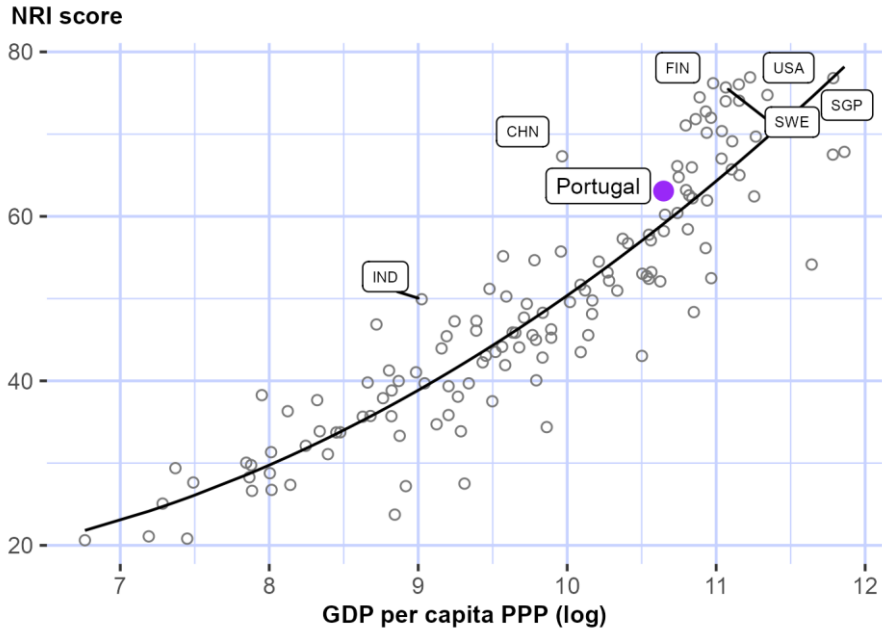
Table 1: Portugal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	13	Quality of Life	32
Regulation	14	Access	33
Future Technologies	24	Businesses	34
Content	25	Individuals	43
Governments	31	Trust	43
Inclusion	32	Economy	44

NRI score and income

Figure 3 shows the position of Portugal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Portugal is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Portugal belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Portugal is ranked 27th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Technology. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Content, Regulation and SDG Contribution.

Europe

Portugal is ranked 19th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in eight of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Portugal against its income group and region, overall and by pillar

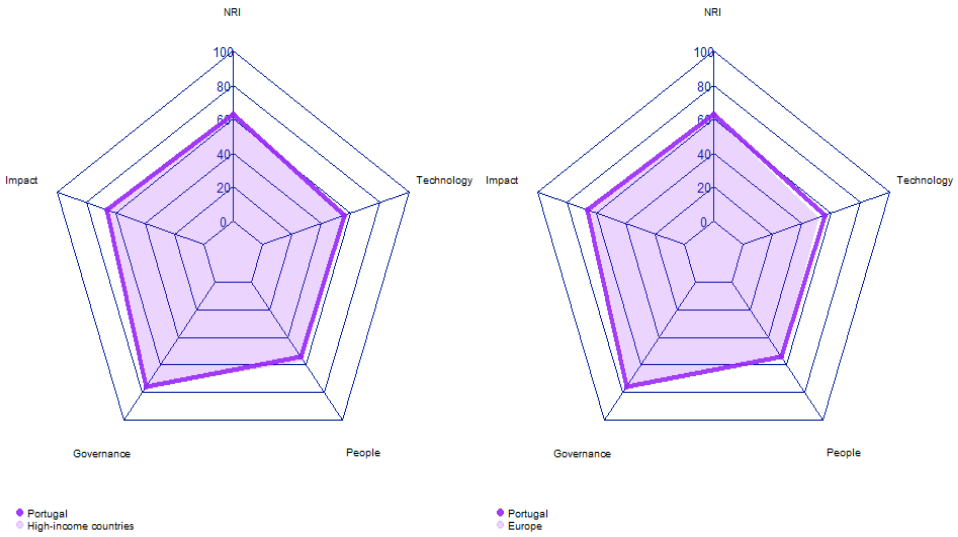


Table 2: Portugal scores vs. averages of its income group and region, overall and by pillar

Dimension	Portugal	High-income countries	Europe
NRI	63.08	64.07	61.25
Technology	56.00	55.76	51.90
People	54.26	56.99	54.16
Governance	75.69	76.81	74.33
Impact	66.37	66.73	64.61

Strongest and weakest indicators

The indicators where Portugal performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.1.2 High-tech exports, 1.1.1 Mobile tariffs, and 3.3.4 Gender gap in Internet use.

Table 3: Highlight of Strengths and Opportunities for Portugal

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	31
1.1.6 Internet access in schools	1	3.3.4 Gender gap in Internet use	58
3.2.4 E-commerce legislation	1	1.1.1 Mobile tariffs	65
3.2.5 Privacy protection by law content	1	4.1.2 High-tech exports	68
4.3.3 SDG 5: Women's economic opportunity	1		
1.3.4 Computer software spending	6		
3.2.2 ICT regulatory environment	14		
1.2.2 Internet domain registrations	16		
4.3.1 SDG 3: Good Health and Well-Being	18		
3.1.2 Cybersecurity	20		
4.2.4 Healthy life expectancy at birth	20		
4.3.4 SDG 7: Affordable and Clean Energy	21		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Portugal

Network Readiness Index Rank: 28 (out of 134) Score: 63.08

Pillar/sub-pillar	Rank	Score
A. Technology pillar	26	56.00
1st sub-pillar: Access	33	74.04
2nd sub-pillar: Content	25	44.04
3rd sub-pillar: Future Technologies	24	49.91
B. People pillar	32	54.26
1st sub-pillar: Individuals	43	52.21
2nd sub-pillar: Businesses	34	59.42
3rd sub-pillar: Governments	31	51.15

Pillar/sub-pillar	Rank	Score
C. Governance pillar	29	75.69
1st sub-pillar: Trust	43	64.67
2nd sub-pillar: Regulation	14	86.87
3rd sub-pillar: Inclusion	32	75.54
D. Impact pillar	29	66.37
1st sub-pillar: Economy	44	35.21
2nd sub-pillar: Quality of Life	32	78.89
3rd sub-pillar: SDG Contribution	13	85.02

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	26	56.00	
1st sub-pillar: Access	33	74.04	
1.1.1 Mobile tariffs	65	61.35	○
1.1.2 Handset prices	38	65.66	
1.1.3 FTTH/building Internet subscriptions	32	41.90	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	43	75.32	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	25	44.04	
1.2.1 GitHub commits	27	41.51	
1.2.2 Internet domain registrations	16	48.60	●
1.2.3 Mobile apps development	51	70.85	
1.2.4 AI scientific publications	34	15.19	
3rd sub-pillar: Future Technologies	24	49.91	
1.3.1 Adoption of emerging technologies	27	70.91	
1.3.2 Investment in emerging technologies	39	52.75	

Indicator	Rank	Score	
C. Governance pillar	29	75.69	
1st sub-pillar: Trust	43	64.67	
3.1.1 Secure Internet servers	31	79.85	
3.1.2 Cybersecurity	20	97.27	●
3.1.3 Online access to financial account	53	34.56	
3.1.4 Internet shopping	46	47.00	
2nd sub-pillar: Regulation	14	86.87	
3.2.1 Regulatory quality	40	66.23	
3.2.2 ICT regulatory environment	14	94.12	●
3.2.3 Regulation of emerging technologies	23	74.03	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	1	100.00	●
3rd sub-pillar: Inclusion	32	75.54	
3.3.1 E-Participation	32	72.10	
3.3.2 Socioeconomic gap in use of digital payments	48	84.24	
3.3.3 Availability of local online content	37	77.64	

Indicator	Rank	Score	
1.3.3 Robot density	25	12.08	
1.3.4 Computer software spending	6	63.90	●
B. People pillar	32	54.26	
1st sub-pillar: Individuals	43	52.21	
2.1.1 Mobile broadband internet traffic within the country	55	11.16	
2.1.2 ICT skills in the education system	21	74.10	
2.1.3 Use of virtual social networks	37	74.10	
2.1.4 Tertiary enrollment	36	45.67	
2.1.5 Adult literacy rate	39	95.60	
2.1.6 AI talent concentration	31	12.66	○
2nd sub-pillar: Businesses	34	59.42	
2.2.1 Firms with website	49	60.69	
2.2.2 GERD financed by business enterprise	24	64.51	
2.2.3 Knowledge intensive employment	26	63.82	
2.2.4 Annual investment in telecommunication services	38	82.48	
2.2.5 GERD performed by business enterprise	22	25.62	
3rd sub-pillar: Governments	31	51.15	
2.3.1 Government online services	40	77.39	
2.3.2 Publication and use of open data	36	42.65	
2.3.3 Government promotion of investment in emerging tech	30	54.46	
2.3.4 R&D expenditure by governments and higher education	23	30.11	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	58	67.88	○
3.3.5 Rural gap in use of digital payments	22	75.82	
D. Impact pillar	29	66.37	
1st sub-pillar: Economy	44	35.21	
4.1.1 High-tech and medium-high-tech manufacturing	40	35.94	
4.1.2 High-tech exports	68	11.09	○
4.1.3 PCT patent applications	32	17.93	
4.1.4 Domestic market size	49	58.77	
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	31	29.66	
2nd sub-pillar: Quality of Life	32	78.89	
4.2.1 Happiness	57	66.96	
4.2.2 Freedom to make life choices	24	87.99	
4.2.3 Income inequality	47	71.11	
4.2.4 Healthy life expectancy at birth	20	89.50	●
3rd sub-pillar: SDG Contribution	13	85.02	
4.3.1 SDG 3: Good Health and Well-Being	18	91.85	●
4.3.2 SDG 4: Quality Education	26	64.46	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	21	81.00	●
4.3.5 SDG 11: Sustainable Cities and Communities	24	87.79	

NOTE: ● a strength and ○ a weakness.

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Qatar

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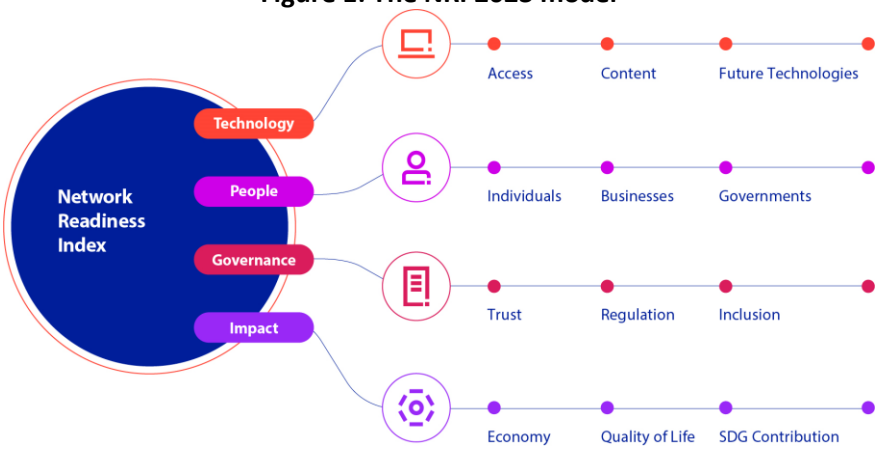
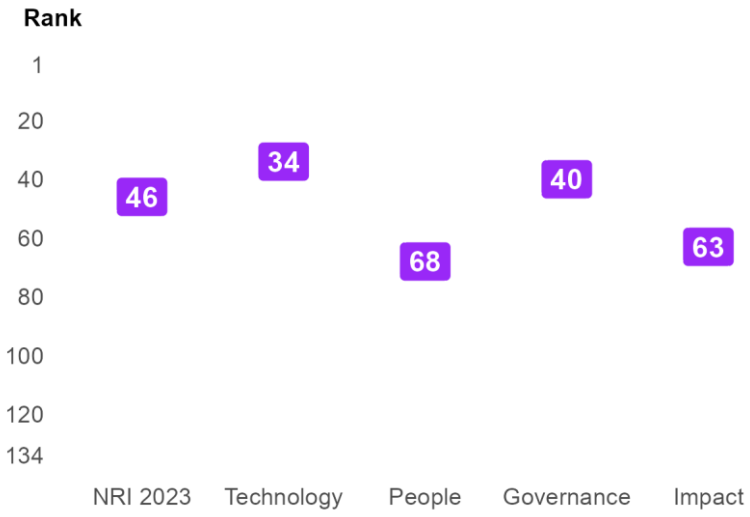
Figure 1: The NRI 2023 model



Global NRI position of Qatar

Qatar ranks 46th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Qatar global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Qatar relate to Individuals, Access and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and SDG Contribution sub-pillars.

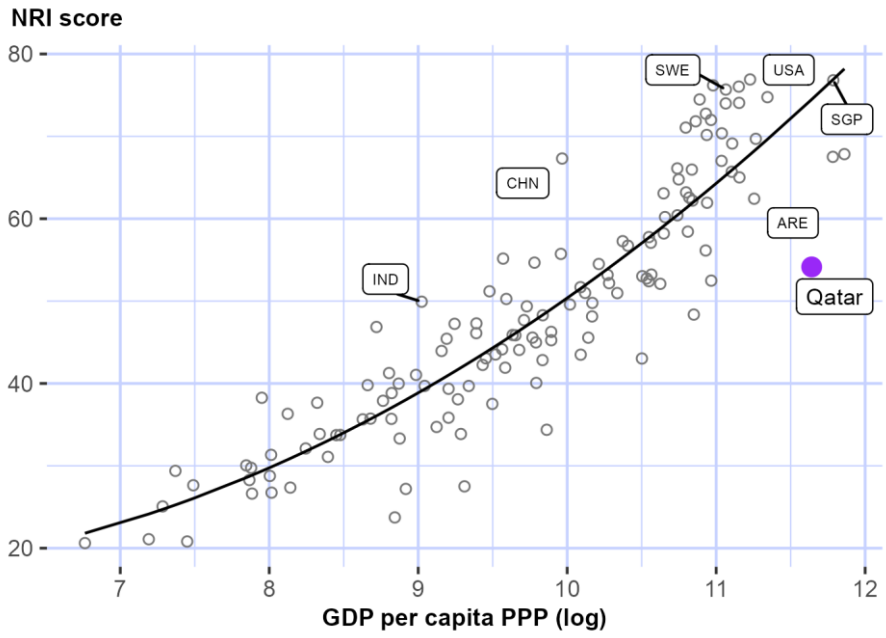
Table 1: Qatar rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	12	Economy	58
Access	20	Inclusion	61
Future Technologies	20	Governments	65
Quality of Life	23	Content	91
Trust	28	Businesses	107
Regulation	43	SDG Contribution	108

NRI score and income

Figure 3 shows the position of Qatar in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Qatar is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Qatar belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Qatar is ranked 40th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in four of the twelve sub-pillars: Access, Future Technologies, Individuals and Quality of Life.

Arab States

Qatar is ranked 3rd within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Qatar against its income group and region, overall and by pillar

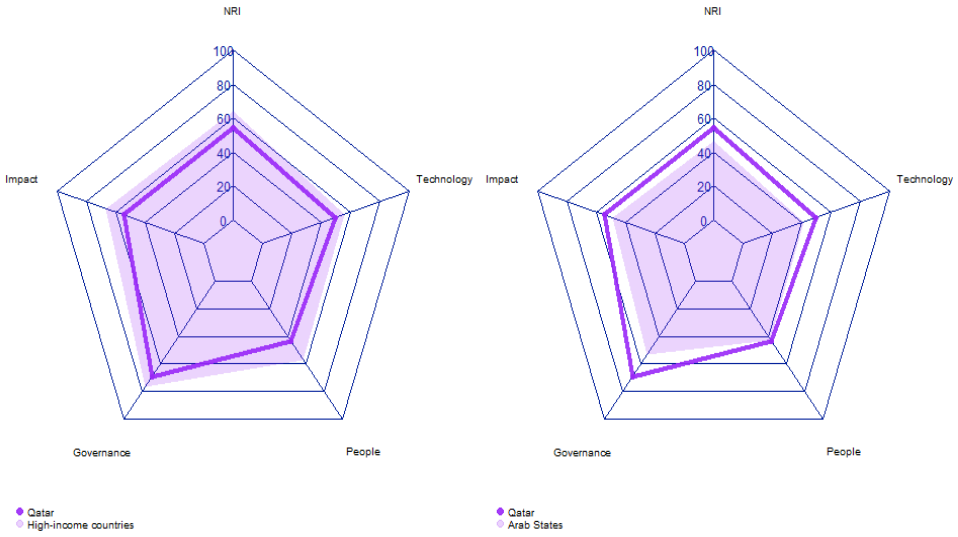


Table 2: Qatar scores vs. averages of its income group and region, overall and by pillar

Dimension	Qatar	High-income countries	Arab States
NRI	54.15	64.07	46.59
Technology	49.59	55.76	41.17
People	43.51	56.99	42.66
Governance	69.18	76.81	53.45
Impact	54.31	66.73	49.08

Strongest and weakest indicators

The indicators where Qatar performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.3 SDG 5: Women's economic opportunity, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Qatar

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	4.1.2 High-tech exports	101
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	102
3.2.4 E-commerce legislation	1	1.2.4 AI scientific publications	106
2.1.3 Use of virtual social networks	3	4.3.4 SDG 7: Affordable and Clean Energy	117
1.1.2 Handset prices	4	4.3.3 SDG 5: Women's economic opportunity	134
2.1.2 ICT skills in the education system	4		
4.3.5 SDG 11: Sustainable Cities and Communities	12		
4.1.5 Prevalence of gig economy	14		
4.2.2 Freedom to make life choices	14		
1.3.2 Investment in emerging technologies	17		
2.3.3 Government promotion of investment in emerging technologies	19		
1.1.1 Mobile tariffs	27		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Qatar

Network Readiness Index Rank: 46 (out of 134) Score: 54.15

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	34	49.59	C. Governance pillar	40	69.18
1st sub-pillar: Access	20	76.32	1st sub-pillar: Trust	28	71.59
2nd sub-pillar: Content	91	17.83	2nd sub-pillar: Regulation	43	73.14
3rd sub-pillar: Future Technologies	20	54.63	3rd sub-pillar: Inclusion	61	62.80
B. People pillar	68	43.51	D. Impact pillar	63	54.31
1st sub-pillar: Individuals	12	60.44	1st sub-pillar: Economy	58	31.47
2nd sub-pillar: Businesses	107	30.56	2nd sub-pillar: Quality of Life	23	80.92
3rd sub-pillar: Governments	65	39.52	3rd sub-pillar: SDG Contribution	108	50.55

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	34	49.59		**C. Governance pillar**	40	69.18	
1st sub-pillar: Access	20	76.32		*1st sub-pillar: Trust*	28	71.59	
1.1.1 Mobile tariffs	27	80.73	●	3.1.1 Secure Internet servers	72	48.78	
1.1.2 Handset prices	4	93.39	●	3.1.2 Cybersecurity	34	94.40	
1.1.3 FTTH/building Internet subscriptions	102	12.94	○	3.1.3 Online access to financial account	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●	3.1.4 Internet shopping	NA	NA	
1.1.5 International Internet bandwidth	66	70.88		*2nd sub-pillar: Regulation*	43	73.14	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	33	69.11	
2nd sub-pillar: Content	91	17.83		3.2.2 ICT regulatory environment	96	69.06	
1.2.1 GitHub commits	81	3.97		3.2.3 Regulation of emerging technologies	25	73.51	
1.2.2 Internet domain registrations	69	3.51		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	77	62.91		3.2.5 Privacy protection by law content	89	54.05	
1.2.4 AI scientific publications	106	0.91	○	*3rd sub-pillar: Inclusion*	61	62.80	
3rd sub-pillar: Future Technologies	20	54.63		3.3.1 E-Participation	90	36.05	
1.3.1 Adoption of emerging technologies	35	62.68		3.3.2 Socioeconomic gap in use of digital payments	NA	NA	
1.3.2 Investment in emerging technologies	17	71.00	●	3.3.3 Availability of local online content	30	81.97	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	37	30.20	
B. People pillar	68	43.51	
1st sub-pillar: Individuals	12	60.44	
2.1.1 Mobile broadband internet traffic within the country	68	9.06	
2.1.2 ICT skills in the education system	4	89.16	●
2.1.3 Use of virtual social networks	3	91.98	●
2.1.4 Tertiary enrollment	92	15.06	
2.1.5 Adult literacy rate	32	96.92	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	107	30.56	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	75	11.45	
2.2.3 Knowledge intensive employment	66	31.17	
2.2.4 Annual investment in telecommunication services	65	78.07	
2.2.5 GERD performed by business enterprise	66	1.56	
3rd sub-pillar: Governments	65	39.52	
2.3.1 Government online services	83	56.83	
2.3.2 Publication and use of open data	73	19.12	
2.3.3 Government promotion of investment in emerging tech	19	70.03	●
2.3.4 R&D expenditure by governments and higher education	53	12.09	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	36	70.39	
3.3.5 Rural gap in use of digital payments	NA	NA	
D. Impact pillar	63	54.31	
1st sub-pillar: Economy	58	31.47	
4.1.1 High-tech and medium-high-tech manufacturing	30	46.74	
4.1.2 High-tech exports	101	2.86	○
4.1.3 PCT patent applications	61	3.82	
4.1.4 Domestic market size	60	55.31	
4.1.5 Prevalence of gig economy	14	71.22	●
4.1.6 ICT services exports	83	8.84	
2nd sub-pillar: Quality of Life	23	80.92	
4.2.1 Happiness	35	74.81	
4.2.2 Freedom to make life choices	14	91.50	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	51	76.44	
3rd sub-pillar: SDG Contribution	108	50.55	
4.3.1 SDG 3: Good Health and Well-Being	51	75.55	
4.3.2 SDG 4: Quality Education	57	32.41	
4.3.3 SDG 5: Women's economic opportunity	134	0.00	○
4.3.4 SDG 7: Affordable and Clean Energy	117	50.07	○
4.3.5 SDG 11: Sustainable Cities and Communities	12	94.70	●

NOTE: ● a strength and ○ a weakness.

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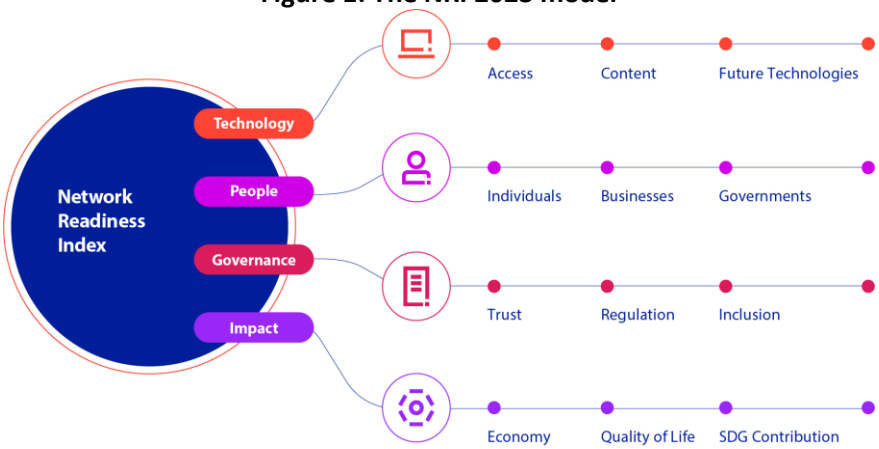
Romania

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

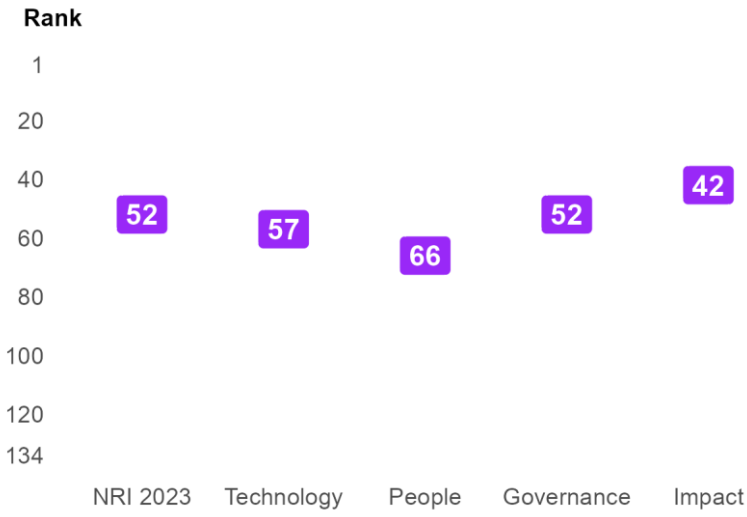
Figure 1: The NRI 2023 model



Global NRI position of Romania

Romania ranks 52nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Romania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Romania relate to Economy, Quality of Life and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Future Technologies and Governments sub-pillars.

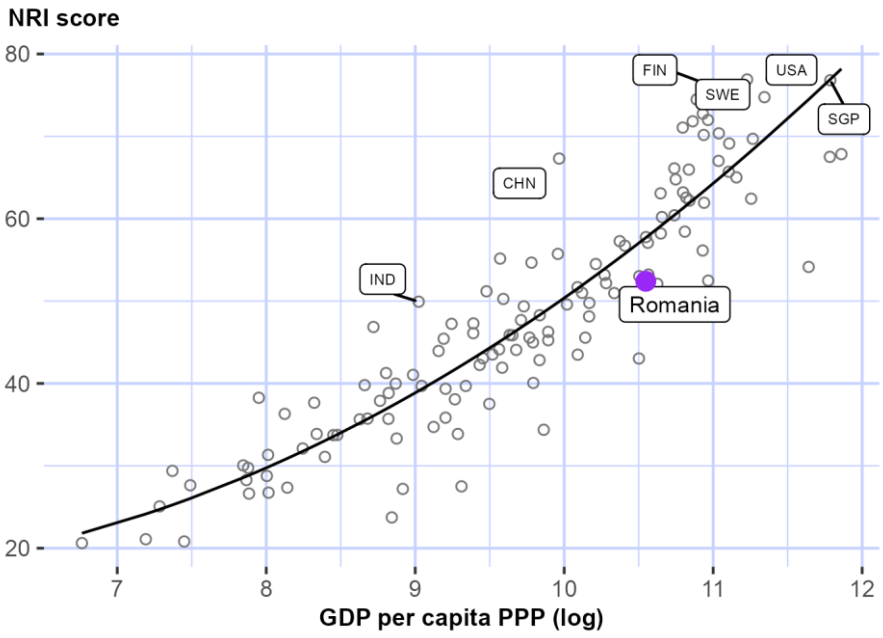
Table 1: Romania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Economy	33	Businesses	52
Quality of Life	41	Inclusion	63
Regulation	45	SDG Contribution	63
Access	48	Individuals	70
Content	50	Future Technologies	78
Trust	51	Governments	78

NRI score and income

Figure 3 shows the position of Romania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Romania is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Romania belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Romania is ranked 45th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it trails high-income countries in all of them.

Europe

Romania is ranked 33rd within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it trails the regional average in each of them.

Figure 4: Performance of Romania against its income group and region, overall and by pillar

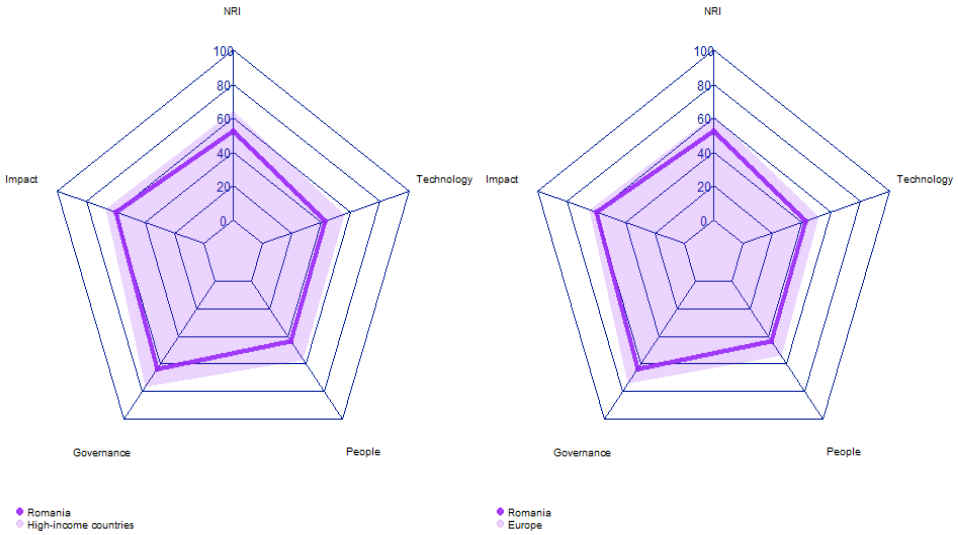


Table 2: Romania scores vs. averages of its income group and region, overall and by pillar

Dimension	Romania	High-income countries	Europe
NRI	52.41	64.07	61.25
Technology	42.76	55.76	51.90
People	43.57	56.99	54.16
Governance	63.55	76.81	74.33
Impact	59.75	66.73	64.61

Strongest and weakest indicators

The indicators where Romania performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 4.3.4 SDG 7: Affordable and Clean Energy (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 4.3.5 SDG 11: Sustainable Cities and Communities, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Romania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	38
4.1.6 ICT services exports	11	2.1.6 AI talent concentration	39
4.3.4 SDG 7: Affordable and Clean Energy	18	3.3.5 Rural gap in use of digital payments	91
1.1.1 Mobile tariffs	20	1.3.2 Investment in emerging technologies	93
1.1.3 FTTH/building Internet subscriptions	21	4.3.5 SDG 11: Sustainable Cities and Communities	93
2.2.2 GERD financed by business enterprise	21		
4.1.1 High-tech and medium-high-tech manufacturing	21		
2.1.5 Adult literacy rate	22		
1.1.4 Population covered by at least a 3G mobile network	25		
3.2.2 ICT regulatory environment	28		
4.2.1 Happiness	30		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Romania

Network Readiness Index — Rank: 52 (out of 134) — Score: 52.41

Pillar/sub-pillar	Rank	Score
A. Technology pillar	57	42.76
1st sub-pillar: Access	48	70.12
2nd sub-pillar: Content	50	28.72
3rd sub-pillar: Future Technologies	78	29.45
B. People pillar	66	43.57
1st sub-pillar: Individuals	70	46.54
2nd sub-pillar: Businesses	52	48.95
3rd sub-pillar: Governments	78	35.22

Pillar/sub-pillar	Rank	Score
C. Governance pillar	52	63.55
1st sub-pillar: Trust	51	55.41
2nd sub-pillar: Regulation	45	72.56
3rd sub-pillar: Inclusion	63	62.67
D. Impact pillar	42	59.75
1st sub-pillar: Economy	33	38.83
2nd sub-pillar: Quality of Life	41	74.98
3rd sub-pillar: SDG Contribution	63	65.43

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	57	42.76	
1st sub-pillar: Access	48	70.12	
1.1.1 Mobile tariffs	20	83.85	●
1.1.2 Handset prices	62	48.27	
1.1.3 FTTH/building Internet subscriptions	21	48.13	●
1.1.4 Population covered by at least a 3G mobile network	25	99.99	●
1.1.5 International Internet bandwidth	73	70.37	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	50	28.72	
1.2.1 GitHub commits	43	20.54	
1.2.2 Internet domain registrations	43	10.46	
1.2.3 Mobile apps development	54	70.24	
1.2.4 AI scientific publications	38	13.65	
3rd sub-pillar: Future Technologies	78	29.45	
1.3.1 Adoption of emerging technologies	50	52.70	
1.3.2 Investment in emerging technologies	93	31.25	○

Indicator	Rank	Score	
C. Governance pillar	52	63.55	
1st sub-pillar: Trust	51	55.41	
3.1.1 Secure Internet servers	33	79.56	
3.1.2 Cybersecurity	70	75.87	
3.1.3 Online access to financial account	74	23.59	
3.1.4 Internet shopping	49	42.63	
2nd sub-pillar: Regulation	45	72.56	
3.2.1 Regulatory quality	54	56.58	
3.2.2 ICT regulatory environment	28	90.59	●
3.2.3 Regulation of emerging technologies	54	48.83	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	63	66.81	
3rd sub-pillar: Inclusion	63	62.67	
3.3.1 E-Participation	54	61.63	
3.3.2 Socioeconomic gap in use of digital payments	86	61.43	
3.3.3 Availability of local online content	45	71.88	

Indicator	Rank	Score	
1.3.3 Robot density	38	5.14	○
1.3.4 Computer software spending	43	28.69	
B. People pillar	66	43.57	
1st sub-pillar: Individuals	70	46.54	
2.1.1 Mobile broadband internet traffic within the country	40	18.99	
2.1.2 ICT skills in the education system	46	56.38	
2.1.3 Use of virtual social networks	66	63.15	
2.1.4 Tertiary enrollment	65	34.09	
2.1.5 Adult literacy rate	22	98.50	●
2.1.6 AI talent concentration	39	8.15	○
2nd sub-pillar: Businesses	52	48.95	
2.2.1 Firms with website	62	48.20	
2.2.2 GERD financed by business enterprise	21	68.80	●
2.2.3 Knowledge intensive employment	47	41.53	
2.2.4 Annual investment in telecommunication services	58	78.89	
2.2.5 GERD performed by business enterprise	47	7.34	
3rd sub-pillar: Governments	78	35.22	
2.3.1 Government online services	69	64.79	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	81	32.48	
2.3.4 R&D expenditure by governments and higher education	62	8.38	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	53	68.68	
3.3.5 Rural gap in use of digital payments	91	49.73	○
D. Impact pillar	42	59.75	
1st sub-pillar: Economy	33	38.83	
4.1.1 High-tech and medium-high-tech manufacturing	21	54.64	●
4.1.2 High-tech exports	43	20.59	
4.1.3 PCT patent applications	71	2.28	
4.1.4 Domestic market size	35	63.91	
4.1.5 Prevalence of gig economy	76	36.34	
4.1.6 ICT services exports	11	55.23	●
2nd sub-pillar: Quality of Life	41	74.98	
4.2.1 Happiness	30	75.97	●
4.2.2 Freedom to make life choices	58	76.86	
4.2.3 Income inequality	46	71.36	
4.2.4 Healthy life expectancy at birth	56	75.73	
3rd sub-pillar: SDG Contribution	63	65.43	
4.3.1 SDG 3: Good Health and Well-Being	62	70.74	
4.3.2 SDG 4: Quality Education	48	38.25	
4.3.3 SDG 5: Women's economic opportunity	39	86.73	
4.3.4 SDG 7: Affordable and Clean Energy	18	81.72	●
4.3.5 SDG 11: Sustainable Cities and Communities	93	49.71	○

NOTE: ● a strength and ○ a weakness.

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Russian Federation

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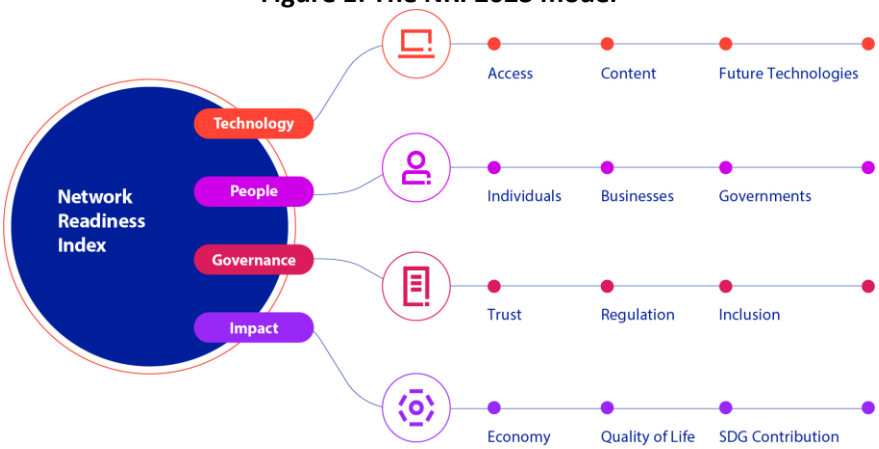
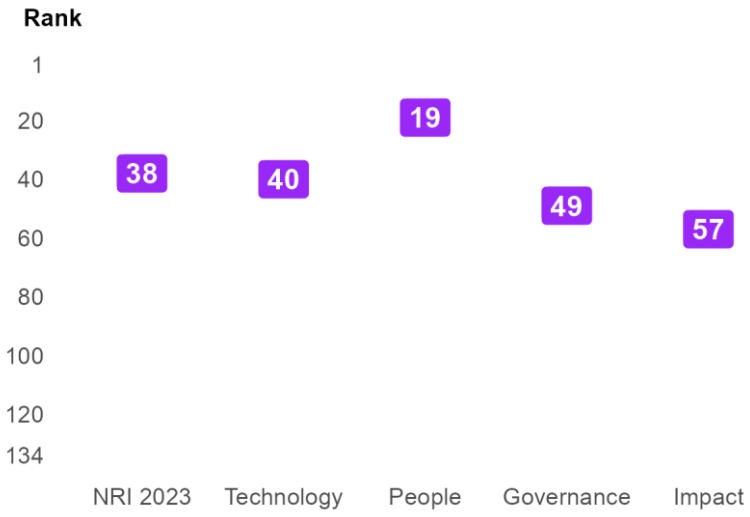
Figure 1: The NRI 2023 model



Global NRI position of Russian Federation

Russian Federation ranks 38th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Russian Federation global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Russian Federation relate to Individuals, Access and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, SDG Contribution and Regulation sub-pillars.

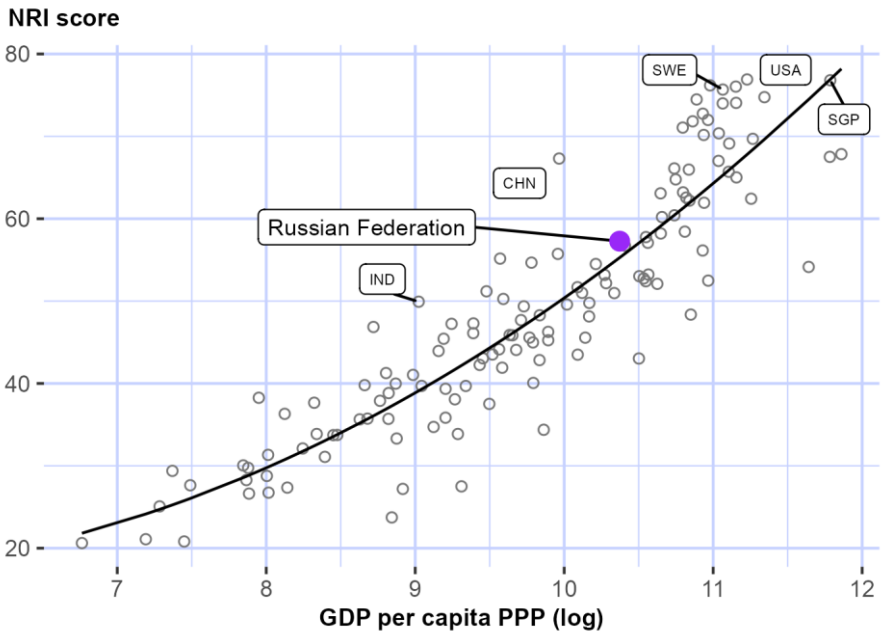
Table 1: Russian Federation rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	3	Content	41
Access	8	Businesses	42
Governments	30	Future Technologies	67
Trust	34	Quality of Life	70
Economy	39	SDG Contribution	77
Inclusion	40	Regulation	102

NRI score and income

Figure 3 shows the position of Russian Federation in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Russian Federation is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Russian Federation belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Upper-middle-income countries

Russian Federation is ranked 2nd in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

CIS

Russian Federation is ranked 1st within CIS (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and Economy.

Figure 4: Performance of Russian Federation against its income group and region, overall and by pillar

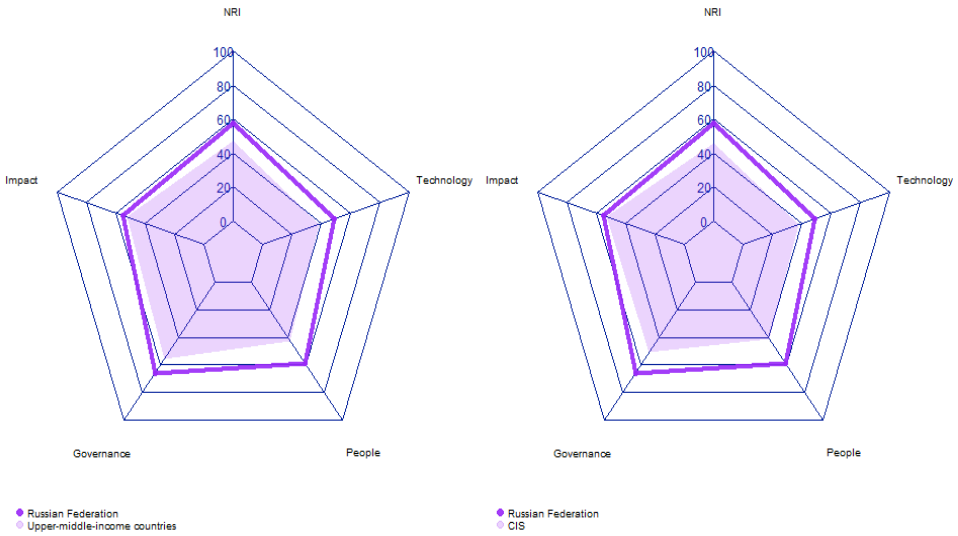


Table 2: Russian Federation scores vs. averages of its income group and region, overall and by pillar

Dimension	Russian Federation	Upper-middle-income countries	CIS
NRI	57.27	47.35	45.81
Technology	48.76	38.48	38.11
People	59.23	42.59	41.35
Governance	66.33	55.90	51.08
Impact	54.77	52.43	52.69

Strongest and weakest indicators

The indicators where Russian Federation performs particularly well include 3.2.4 E-commerce legislation, 2.1.1 Mobile broadband internet traffic within the country, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 3.2.2 ICT regulatory environment, and 3.2.5 Privacy protection by law content.

Table 3: Highlight of Strengths and Opportunities for Russian Federation

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	48
2.1.1 Mobile broadband internet traffic within the country	3	4.3.3 SDG 5: Women's economic opportunity	107
1.1.3 FTTH/building Internet subscriptions	6	3.2.5 Privacy protection by law content	117
4.1.4 Domestic market size	6	3.2.2 ICT regulatory environment	124
3.1.2 Cybersecurity	8	4.3.4 SDG 7: Affordable and Clean Energy	125
2.1.5 Adult literacy rate	10		
1.2.4 AI scientific publications	12		
2.2.4 Annual investment in telecommunication services	13		
1.1.1 Mobile tariffs	14		
1.1.5 International Internet bandwidth	16		
2.1.4 Tertiary enrollment	16		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Russian Federation

Network Readiness Index Rank: 38 (out of 134) Score: 57.27

Pillar/sub-pillar	Rank	Score
A. Technology pillar	40	48.76
1st sub-pillar: Access	8	80.76
2nd sub-pillar: Content	41	33.63
3rd sub-pillar: Future Technologies	67	31.88
B. People pillar	19	59.23
1st sub-pillar: Individuals	3	72.59
2nd sub-pillar: Businesses	42	53.57
3rd sub-pillar: Governments	30	51.53

Pillar/sub-pillar	Rank	Score
C. Governance pillar	49	66.33
1st sub-pillar: Trust	34	69.33
2nd sub-pillar: Regulation	102	56.10
3rd sub-pillar: Inclusion	40	73.55
D. Impact pillar	57	54.77
1st sub-pillar: Economy	39	36.35
2nd sub-pillar: Quality of Life	70	67.56
3rd sub-pillar: SDG Contribution	77	60.40

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	40	48.76	
1st sub-pillar: Access	8	80.76	
1.1.1 Mobile tariffs	14	86.73	●
1.1.2 Handset prices	36	67.17	
1.1.3 FTTH/building Internet subscriptions	6	67.47	●
1.1.4 Population covered by at least a 3G mobile network	85	98.87	
1.1.5 International Internet bandwidth	16	83.55	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	41	33.63	
1.2.1 GitHub commits	48	16.09	
1.2.2 Internet domain registrations	45	9.70	
1.2.3 Mobile apps development	31	73.80	
1.2.4 AI scientific publications	12	34.94	●
3rd sub-pillar: Future Technologies	67	31.88	
1.3.1 Adoption of emerging technologies	42	58.81	
1.3.2 Investment in emerging technologies	47	48.75	

Indicator	Rank	Score	
C. Governance pillar	49	66.33	
1st sub-pillar: Trust	34	69.33	
3.1.1 Secure Internet servers	39	75.80	
3.1.2 Cybersecurity	8	98.03	●
3.1.3 Online access to financial account	34	50.60	
3.1.4 Internet shopping	42	52.91	
2nd sub-pillar: Regulation	102	56.10	
3.2.1 Regulatory quality	99	37.63	
3.2.2 ICT regulatory environment	124	55.88	○
3.2.3 Regulation of emerging technologies	52	50.13	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	117	36.86	○
3rd sub-pillar: Inclusion	40	73.55	
3.3.1 E-Participation	57	59.31	
3.3.2 Socioeconomic gap in use of digital payments	38	89.13	
3.3.3 Availability of local online content	39	76.68	

Indicator	Rank	Score	
1.3.3 Robot density	48	1.06	○
1.3.4 Computer software spending	73	18.92	
B. People pillar	19	59.23	
1st sub-pillar: Individuals	3	72.59	
2.1.1 Mobile broadband internet traffic within the country	3	65.29	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	51	69.01	
2.1.4 Tertiary enrollment	16	56.48	●
2.1.5 Adult literacy rate	10	99.59	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	42	53.57	
2.2.1 Firms with website	53	56.61	
2.2.2 GERD financed by business enterprise	59	36.15	
2.2.3 Knowledge intensive employment	22	69.60	
2.2.4 Annual investment in telecommunication services	13	89.58	●
2.2.5 GERD performed by business enterprise	35	15.91	
3rd sub-pillar: Governments	30	51.53	
2.3.1 Government online services	61	70.91	
2.3.2 Publication and use of open data	19	63.24	
2.3.3 Government promotion of investment in emerging tech	34	52.37	
2.3.4 R&D expenditure by governments and higher education	37	19.61	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	40	69.91	
3.3.5 Rural gap in use of digital payments	39	72.70	
D. Impact pillar	57	54.77	
1st sub-pillar: Economy	39	36.35	
4.1.1 High-tech and medium-high-tech manufacturing	42	35.44	
4.1.2 High-tech exports	49	17.33	
4.1.3 PCT patent applications	48	6.98	
4.1.4 Domestic market size	6	81.89	●
4.1.5 Prevalence of gig economy	25	63.66	
4.1.6 ICT services exports	68	12.82	
2nd sub-pillar: Quality of Life	70	67.56	
4.2.1 Happiness	50	68.66	
4.2.2 Freedom to make life choices	81	66.82	
4.2.3 Income inequality	56	67.84	
4.2.4 Healthy life expectancy at birth	85	66.90	
3rd sub-pillar: SDG Contribution	77	60.40	
4.3.1 SDG 3: Good Health and Well-Being	48	77.13	
4.3.2 SDG 4: Quality Education	31	60.11	
4.3.3 SDG 5: Women's economic opportunity	107	61.95	○
4.3.4 SDG 7: Affordable and Clean Energy	125	41.33	○
4.3.5 SDG 11: Sustainable Cities and Communities	74	61.48	

NOTE: ● a strength and ○ a weakness.

Sources

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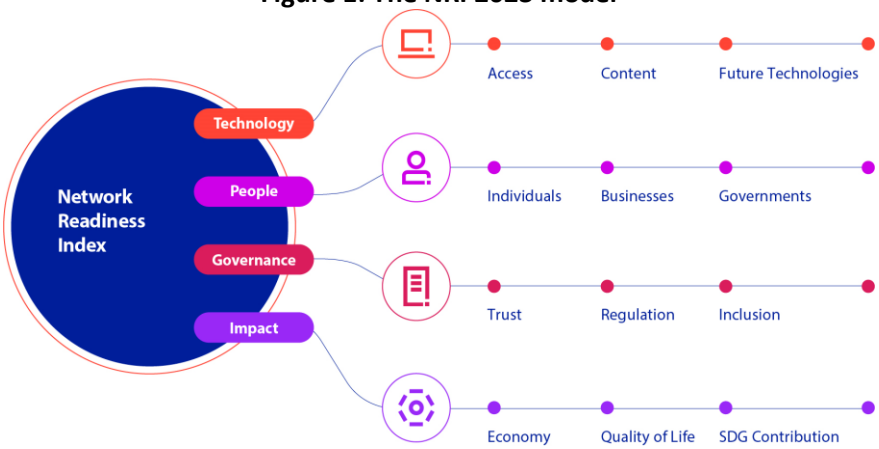
Rwanda

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

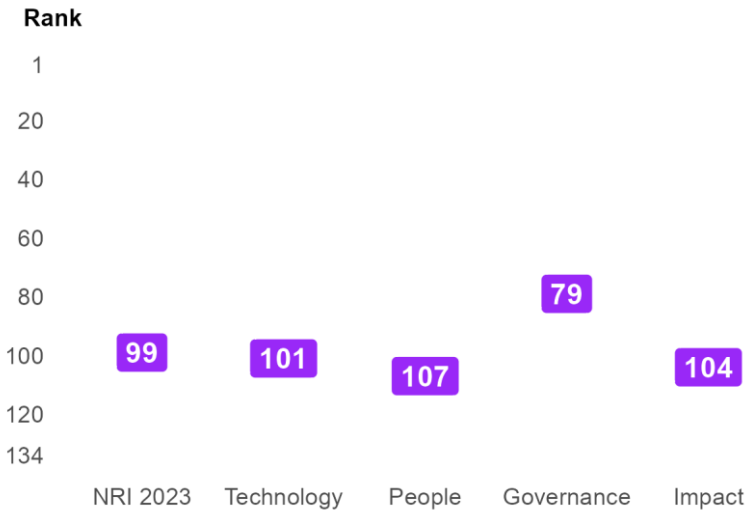
Figure 1: The NRI 2023 model



Global NRI position of Rwanda

Rwanda ranks 99th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Rwanda global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Rwanda relate to Governments, Regulation and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Access, Individuals and Businesses sub-pillars.

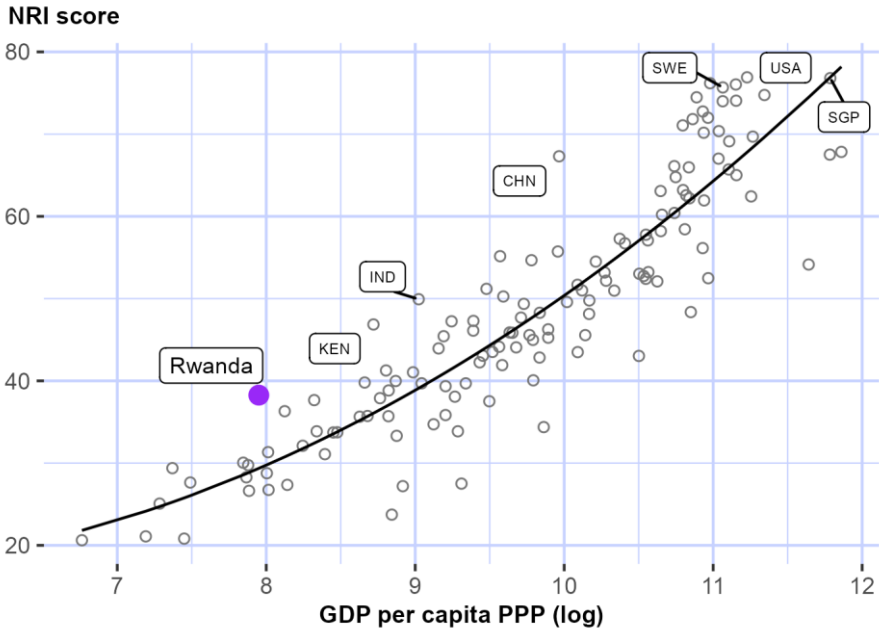
Table 1: Rwanda rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Governments	57	Economy	107
Regulation	60	Content	109
Future Technologies	66	Quality of Life	110
SDG Contribution	83	Access	113
Inclusion	84	Individuals	116
Trust	96	Businesses	122

NRI score and income

Figure 3 shows the position of Rwanda in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Rwanda is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Rwanda belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Rwanda is ranked 1st in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms low-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Africa

Rwanda is ranked 6th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in ten of the twelve sub-pillars: Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Rwanda against its income group and region, overall and by pillar

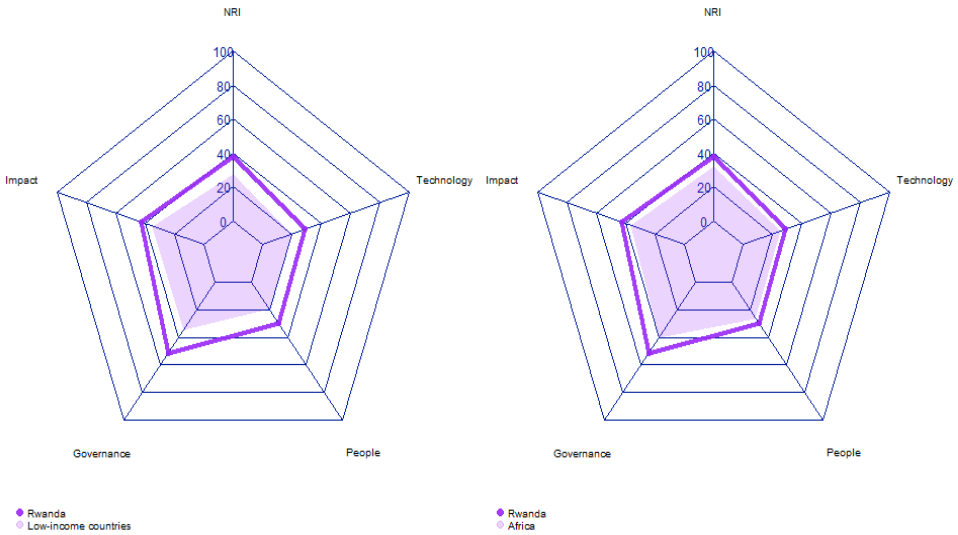


Table 2: Rwanda scores vs. averages of its income group and region, overall and by pillar

Dimension	Rwanda	Low-income countries	Africa
NRI	38.26	27.19	32.14
Technology	29.14	19.75	25.14
People	29.97	19.57	26.19
Governance	51.47	34.61	40.44
Impact	42.46	34.82	36.77

Strongest and weakest indicators

The indicators where Rwanda performs particularly well include 3.2.4 E-commerce legislation, 2.3.3 Government promotion of investment in emerging technologies, and 4.2.2 Freedom to make life choices (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 3.1.4 Internet shopping, and 4.2.1 Happiness.

Table 3: Highlight of Strengths and Opportunities for Rwanda

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.2 GERD financed by business enterprise	95
2.3.3 Government promotion of investment in emerging technologies	32	4.1.3 PCT patent applications	99
4.2.2 Freedom to make life choices	39	4.2.1 Happiness	127
2.3.1 Government online services	41	2.1.3 Use of virtual social networks	128
1.3.2 Investment in emerging technologies	42	3.1.4 Internet shopping	128
3.2.2 ICT regulatory environment	45		
2.3.4 R&D expenditure by governments and higher education	48		
3.3.5 Rural gap in use of digital payments	52		
3.3.1 E-Participation	53		
4.1.5 Prevalence of gig economy	56		
3.2.3 Regulation of emerging technologies	57		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Rwanda

Network Readiness Index Rank: 99 (out of 134) Score: 38.26

Pillar/sub-pillar	Rank	Score
A. Technology pillar	101	29.14
1st sub-pillar: Access	113	42.83
2nd sub-pillar: Content	109	12.61
3rd sub-pillar: Future Technologies	66	31.98
B. People pillar	107	29.97
1st sub-pillar: Individuals	116	25.62
2nd sub-pillar: Businesses	122	23.33
3rd sub-pillar: Governments	57	40.97

Pillar/sub-pillar	Rank	Score
C. Governance pillar	79	51.47
1st sub-pillar: Trust	96	32.34
2nd sub-pillar: Regulation	60	67.07
3rd sub-pillar: Inclusion	84	55.00
D. Impact pillar	104	42.46
1st sub-pillar: Economy	107	17.18
2nd sub-pillar: Quality of Life	110	50.32
3rd sub-pillar: SDG Contribution	83	59.89

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	101	29.14	
1st sub-pillar: Access	113	42.83	
1.1.1 Mobile tariffs	115	26.02	
1.1.2 Handset prices	127	14.77	
1.1.3 FTTH/building Internet subscriptions	78	24.52	
1.1.4 Population covered by at least a 3G mobile network	70	99.59	
1.1.5 International Internet bandwidth	116	60.29	
1.1.6 Internet access in schools	61	31.78	
2nd sub-pillar: Content	109	12.61	
1.2.1 GitHub commits	92	2.88	
1.2.2 Internet domain registrations	121	0.18	
1.2.3 Mobile apps development	109	45.63	
1.2.4 AI scientific publications	92	1.75	
3rd sub-pillar: Future Technologies	66	31.98	
1.3.1 Adoption of emerging technologies	78	41.88	
1.3.2 Investment in emerging technologies	42	50.00	•

Indicator	Rank	Score	
C. Governance pillar	79	51.47	
1st sub-pillar: Trust	96	32.34	
3.1.1 Secure Internet servers	106	35.01	
3.1.2 Cybersecurity	65	79.60	
3.1.3 Online access to financial account	96	14.35	
3.1.4 Internet shopping	128	0.40	○
2nd sub-pillar: Regulation	60	67.07	
3.2.1 Regulatory quality	69	51.20	
3.2.2 ICT regulatory environment	45	87.06	•
3.2.3 Regulation of emerging technologies	57	46.75	•
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	95	50.33	
3rd sub-pillar: Inclusion	84	55.00	
3.3.1 E-Participation	53	62.80	•
3.3.2 Socioeconomic gap in use of digital payments	123	36.12	
3.3.3 Availability of local online content	83	51.44	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	105	4.06	
B. People pillar		107	29.97	
1st sub-pillar: Individuals		116	25.62	
2.1.1	Mobile broadband internet traffic within the country	98	2.18	
2.1.2	ICT skills in the education system	58	52.82	
2.1.3	Use of virtual social networks	128	2.93	○
2.1.4	Tertiary enrollment	119	3.07	
2.1.5	Adult literacy rate	87	67.09	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		122	23.33	
2.2.1	Firms with website	76	38.24	
2.2.2	GERD financed by business enterprise	95	0.78	○
2.2.3	Knowledge intensive employment	116	6.15	
2.2.4	Annual investment in telecommunication services	114	70.37	
2.2.5	GERD performed by business enterprise	72	1.11	
3rd sub-pillar: Governments		57	40.97	
2.3.1	Government online services	41	77.18	●
2.3.2	Publication and use of open data	73	19.12	
2.3.3	Government promotion of investment in emerging tech	32	54.09	●
2.3.4	R&D expenditure by governments and higher education	48	13.48	●

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	NA	NA	
3.3.5	Rural gap in use of digital payments	52	69.65	●
D. Impact pillar		104	42.46	
1st sub-pillar: Economy		107	17.18	
4.1.1	High-tech and medium-high-tech manufacturing	95	7.17	
4.1.2	High-tech exports	76	8.99	
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	120	34.13	
4.1.5	Prevalence of gig economy	56	44.77	●
4.1.6	ICT services exports	88	8.02	
2nd sub-pillar: Quality of Life		110	50.32	
4.2.1	Happiness	127	17.03	○
4.2.2	Freedom to make life choices	39	82.29	●
4.2.3	Income inequality	95	48.49	
4.2.4	Healthy life expectancy at birth	103	53.47	
3rd sub-pillar: SDG Contribution		83	59.89	
4.3.1	SDG 3: Good Health and Well-Being	106	41.78	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	69	76.99	
4.3.4	SDG 7: Affordable and Clean Energy	69	71.60	
4.3.5	SDG 11: Sustainable Cities and Communities	94	49.19	

NOTE: ● a strength and ○ a weakness.

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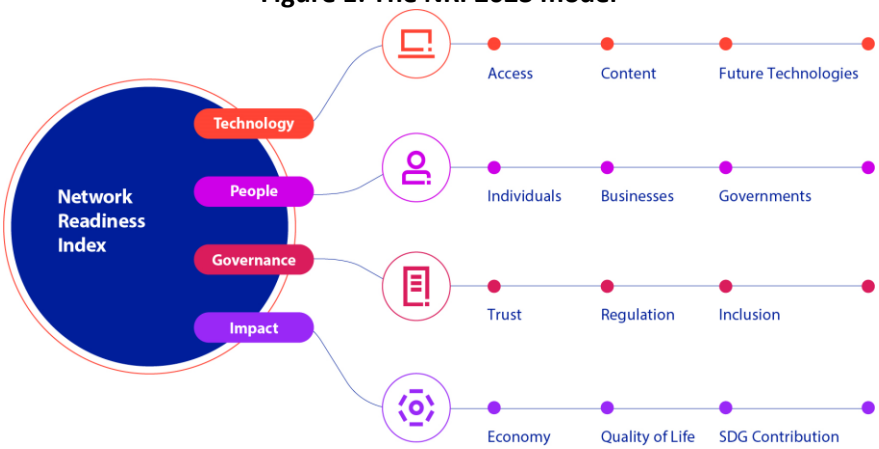
Saudi Arabia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

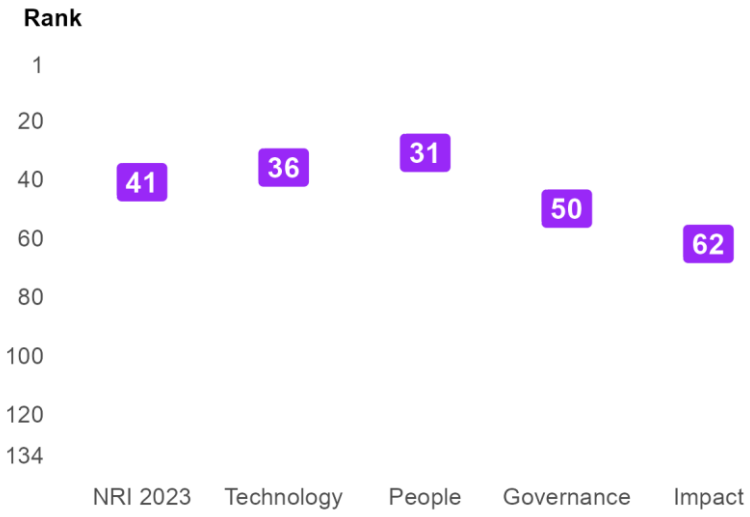
Figure 1: The NRI 2023 model



Global NRI position of Saudi Arabia

Saudi Arabia ranks 41st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Saudi Arabia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Saudi Arabia relate to Individuals, Future Technologies and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Regulation and SDG Contribution sub-pillars.

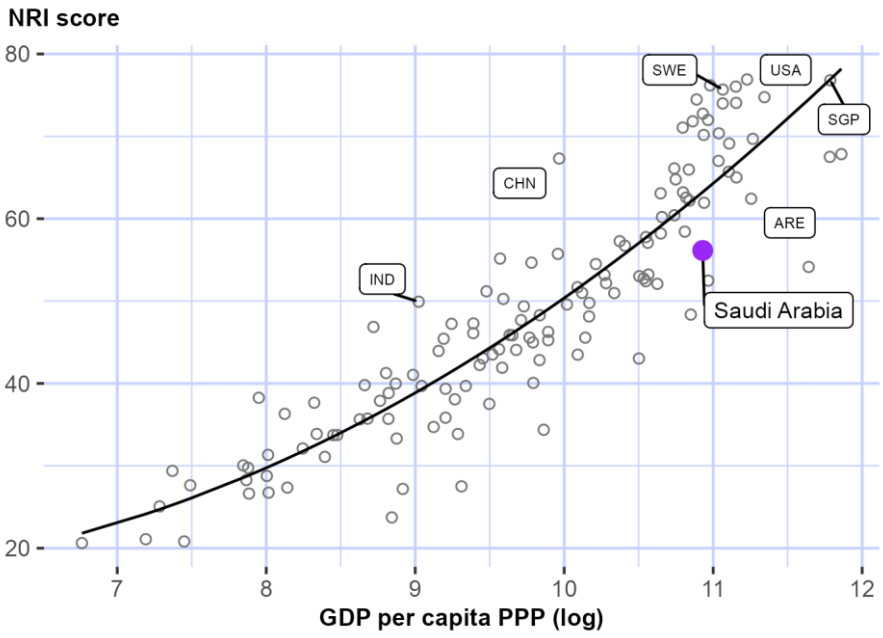
Table 1: Saudi Arabia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	10	Businesses	40
Future Technologies	19	Trust	44
Access	30	Economy	47
Inclusion	30	Content	80
Governments	35	Regulation	98
Quality of Life	38	SDG Contribution	104

NRI score and income

Figure 3 shows the position of Saudi Arabia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Saudi Arabia is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Saudi Arabia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

Saudi Arabia is ranked 38th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in three of the twelve sub-pillars: Access, Future Technologies and Individuals.

Arab States

Saudi Arabia is ranked 2nd within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Saudi Arabia against its income group and region, overall and by pillar

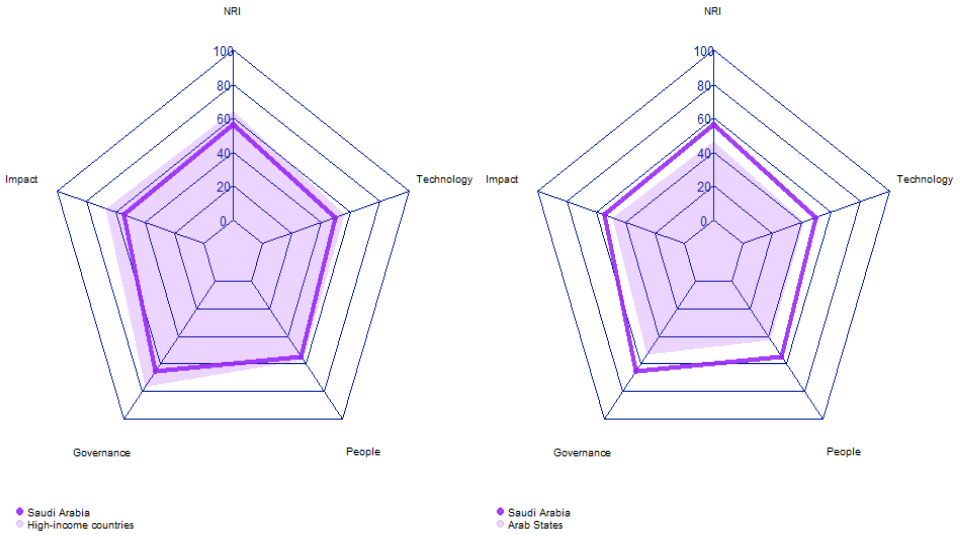


Table 2: Saudi Arabia scores vs. averages of its income group and region, overall and by pillar

Dimension	Saudi Arabia	High-income countries	Arab States
NRI	56.14	64.07	46.59
Technology	49.52	55.76	41.17
People	55.02	56.99	42.66
Governance	65.69	76.81	53.45
Impact	54.34	66.73	49.08

Strongest and weakest indicators

The indicators where Saudi Arabia performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 3.1.2 Cybersecurity (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.2.4 E-commerce legislation, and 4.1.2 High-tech exports.

Table 3: Highlight of Strengths and Opportunities for Saudi Arabia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	4.3.2 SDG 4: Quality Education	68
1.1.6 Internet access in schools	1	2.2.1 Firms with website	94
3.1.2 Cybersecurity	2	4.1.2 High-tech exports	120
2.3.3 Government promotion of investment in emerging technologies	5	3.2.4 E-commerce legislation	121
4.1.5 Prevalence of gig economy	5	3.2.5 Privacy protection by law content	127
2.1.1 Mobile broadband internet traffic within the country	8		
2.1.2 ICT skills in the education system	8		
1.1.5 International Internet bandwidth	9		
3.3.3 Availability of local online content	11		
1.1.3 FTTH/building Internet subscriptions	17		
4.1.4 Domestic market size	17		
2.2.4 Annual investment in telecommunication services	18		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Saudi Arabia

Network Readiness Index Rank: 41 (out of 134) Score: 56.14

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	36	49.52	C. Governance pillar	50	65.69
1st sub-pillar: Access	30	74.45	1st sub-pillar: Trust	44	63.80
2nd sub-pillar: Content	80	19.26	2nd sub-pillar: Regulation	98	57.05
3rd sub-pillar: Future Technologies	19	54.85	3rd sub-pillar: Inclusion	30	76.21
B. People pillar	31	55.02	D. Impact pillar	62	54.34
1st sub-pillar: Individuals	10	60.97	1st sub-pillar: Economy	47	34.38
2nd sub-pillar: Businesses	40	54.69	2nd sub-pillar: Quality of Life	38	76.35
3rd sub-pillar: Governments	35	49.39	3rd sub-pillar: SDG Contribution	104	52.29

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	36	49.52		**C. Governance pillar**	50	65.69	
1st sub-pillar: Access	30	74.45		*1st sub-pillar: Trust*	44	63.80	
1.1.1 Mobile tariffs	48	71.74		3.1.1 Secure Internet servers	88	43.09	
1.1.2 Handset prices	90	37.70		3.1.2 Cybersecurity	2	99.53	●
1.1.3 FTTH/building Internet subscriptions	17	49.29	●	3.1.3 Online access to financial account	44	40.98	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●	3.1.4 Internet shopping	21	71.59	
1.1.5 International Internet bandwidth	9	87.99	●	*2nd sub-pillar: Regulation*	98	57.05	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	52	57.18	
2nd sub-pillar: Content	80	19.26		3.2.2 ICT regulatory environment	14	94.12	
1.2.1 GitHub commits	100	1.97		3.2.3 Regulation of emerging technologies	18	77.14	
1.2.2 Internet domain registrations	83	1.92		3.2.4 E-commerce legislation	121	33.33	○
1.2.3 Mobile apps development	68	65.03		3.2.5 Privacy protection by law content	127	23.47	○
1.2.4 AI scientific publications	52	8.13		*3rd sub-pillar: Inclusion*	30	76.21	
3rd sub-pillar: Future Technologies	19	54.85		3.3.1 E-Participation	43	68.61	
1.3.1 Adoption of emerging technologies	23	72.31		3.3.2 Socioeconomic gap in use of digital payments	61	78.24	
1.3.2 Investment in emerging technologies	30	61.50		3.3.3 Availability of local online content	11	91.11	●

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	35	30.74	
B. People pillar	31	55.02	
1st sub-pillar: Individuals	10	60.97	
2.1.1 Mobile broadband internet traffic within the country	8	54.68	●
2.1.2 ICT skills in the education system	8	83.33	●
2.1.3 Use of virtual social networks	35	74.88	
2.1.4 Tertiary enrollment	31	46.36	
2.1.5 Adult literacy rate	34	96.70	
2.1.6 AI talent concentration	35	9.87	
2nd sub-pillar: Businesses	40	54.69	
2.2.1 Firms with website	94	22.64	○
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	18	86.74	●
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	35	49.39	
2.3.1 Government online services	32	80.33	
2.3.2 Publication and use of open data	65	25.00	
2.3.3 Government promotion of investment in emerging tech	5	84.06	●
2.3.4 R&D expenditure by governments and higher education	63	8.19	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	26	71.55	
3.3.5 Rural gap in use of digital payments	42	71.56	
D. Impact pillar	62	54.34	
1st sub-pillar: Economy	47	34.38	
4.1.1 High-tech and medium-high-tech manufacturing	46	31.89	
4.1.2 High-tech exports	120	0.85	○
4.1.3 PCT patent applications	42	8.83	
4.1.4 Domestic market size	17	73.78	●
4.1.5 Prevalence of gig economy	5	86.05	●
4.1.6 ICT services exports	97	4.87	
2nd sub-pillar: Quality of Life	38	76.35	
4.2.1 Happiness	34	74.94	
4.2.2 Freedom to make life choices	25	87.86	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	86	66.24	
3rd sub-pillar: SDG Contribution	104	52.29	
4.3.1 SDG 3: Good Health and Well-Being	57	73.04	
4.3.2 SDG 4: Quality Education	68	21.27	○
4.3.3 SDG 5: Women's economic opportunity	109	59.29	
4.3.4 SDG 7: Affordable and Clean Energy	103	59.68	
4.3.5 SDG 11: Sustainable Cities and Communities	96	48.16	

NOTE: ● a strength and ○ a weakness.

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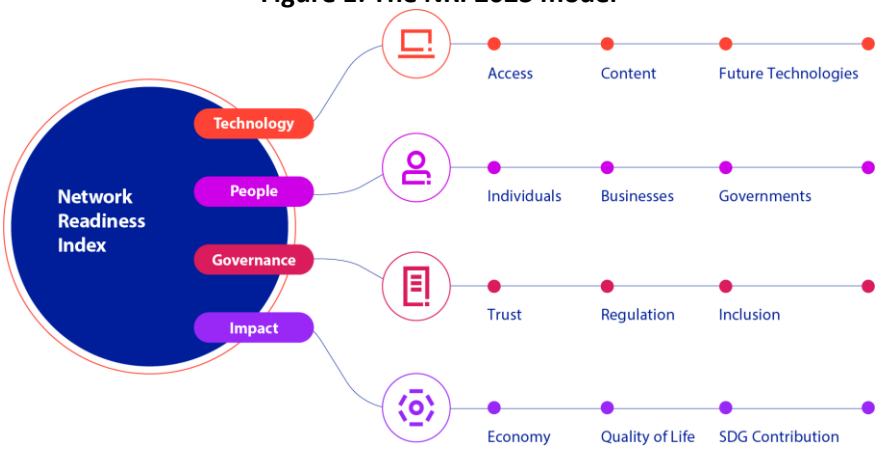
Senegal

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

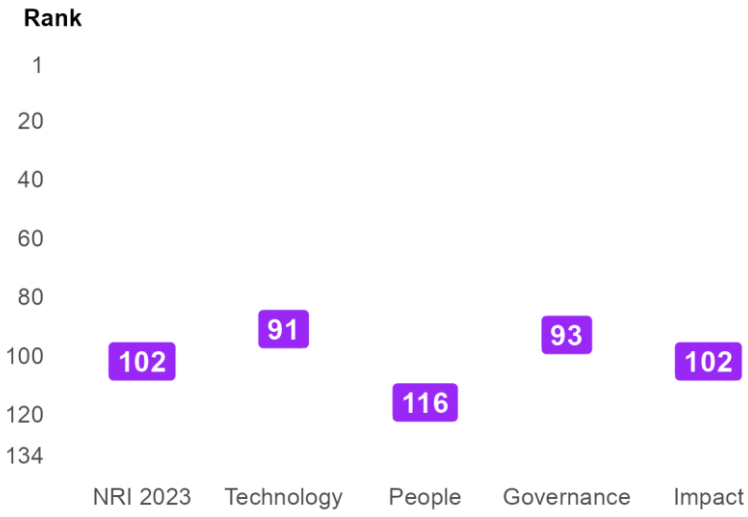
Figure 1: The NRI 2023 model



Global NRI position of Senegal

Senegal ranks 102nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Senegal global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Senegal relate to Regulation, Future Technologies and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Businesses and Content sub-pillars.

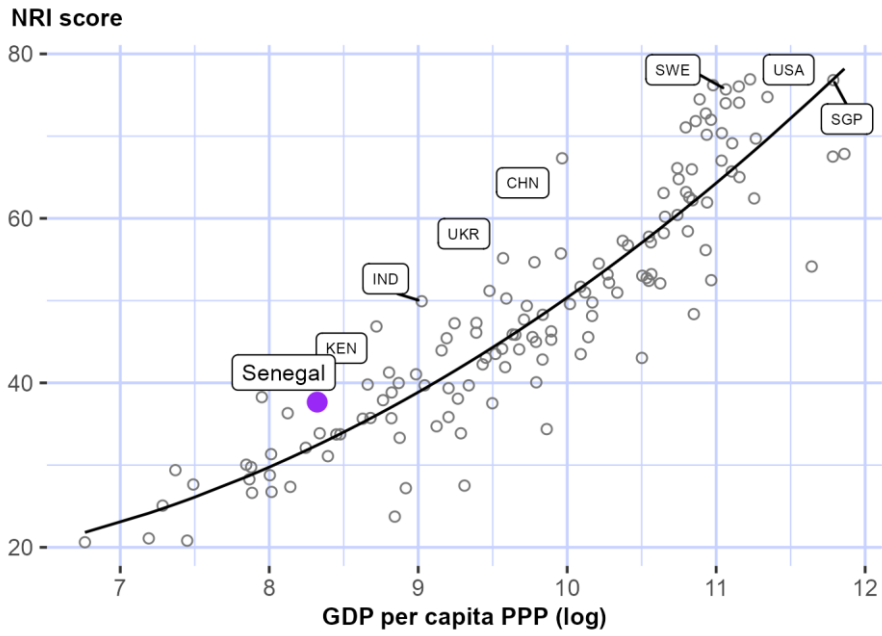
Table 1: Senegal rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Regulation	54	Quality of Life	100
Future Technologies	55	Governments	103
Economy	91	Trust	106
SDG Contribution	95	Individuals	115
Access	97	Businesses	115
Inclusion	99	Content	116

NRI score and income

Figure 3 shows the position of Senegal in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Senegal is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Senegal belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Senegal is ranked 22nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: Technology, Governance and Impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Future Technologies, Regulation, Inclusion, Quality of Life and SDG Contribution.

Africa

Senegal is ranked 8th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in ten of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Senegal against its income group and region, overall and by pillar

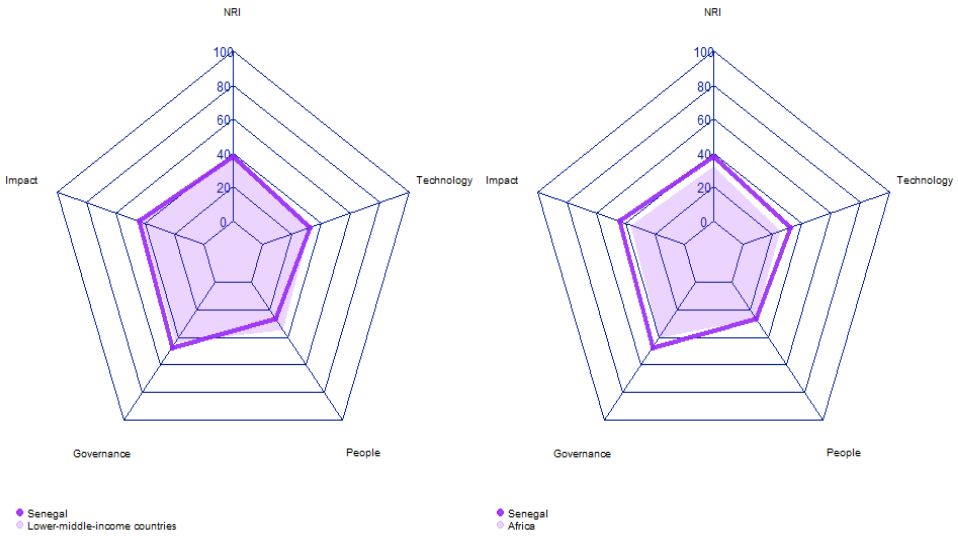


Table 2: Senegal scores vs. averages of its income group and region, overall and by pillar

Dimension	Senegal	Lower-middle-income countries	Africa
NRI	37.66	38.41	32.14
Technology	32.57	32.12	25.14
People	26.55	34.38	26.19
Governance	47.39	43.27	40.44
Impact	44.12	43.89	36.77

Strongest and weakest indicators

The indicators where Senegal performs particularly well include 3.2.4 E-commerce legislation, 2.1.2 ICT skills in the education system, and 3.2.3 Regulation of emerging technologies (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 2.2.3 Knowledge intensive employment, and 1.2.3 Mobile apps development.

Table 3: Highlight of Strengths and Opportunities for Senegal

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	4.1.3 PCT patent applications	99
2.1.2 ICT skills in the education system	41	2.1.5 Adult literacy rate	100
3.2.3 Regulation of emerging technologies	44	1.2.3 Mobile apps development	116
1.1.4 Population covered by at least a 3G mobile network	54	2.2.3 Knowledge intensive employment	119
1.3.4 Computer software spending	54	1.1.5 International Internet bandwidth	126
3.2.2 ICT regulatory environment	55		
4.1.5 Prevalence of gig economy	55		
2.3.3 Government promotion of investment in emerging technologies	56		
1.3.2 Investment in emerging technologies	60		
4.3.4 SDG 7: Affordable and Clean Energy	60		
3.1.3 Online access to financial account	61		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Senegal

Network Readiness Index Rank: 102 (out of 134) Score: 37.66

Pillar/sub-pillar	Rank	Score
A. Technology pillar	91	32.57
1st sub-pillar: Access	97	50.68
2nd sub-pillar: Content	116	10.40
3rd sub-pillar: Future Technologies	55	36.62
B. People pillar	116	26.55
1st sub-pillar: Individuals	115	26.02
2nd sub-pillar: Businesses	115	27.68
3rd sub-pillar: Governments	103	25.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	93	47.39
1st sub-pillar: Trust	106	26.13
2nd sub-pillar: Regulation	54	69.19
3rd sub-pillar: Inclusion	99	46.85
D. Impact pillar	102	44.12
1st sub-pillar: Economy	91	21.23
2nd sub-pillar: Quality of Life	100	56.16
3rd sub-pillar: SDG Contribution	95	54.96

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	91	32.57	
1st sub-pillar: Access	97	50.68	
1.1.1 Mobile tariffs	98	42.90	
1.1.2 Handset prices	110	28.20	
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	54	99.80	●
1.1.5 International Internet bandwidth	126	54.13	○
1.1.6 Internet access in schools	64	28.39	
2nd sub-pillar: Content	116	10.40	
1.2.1 GitHub commits	112	0.97	
1.2.2 Internet domain registrations	105	0.62	
1.2.3 Mobile apps development	116	37.52	○
1.2.4 AI scientific publications	81	2.50	
3rd sub-pillar: Future Technologies	55	36.62	
1.3.1 Adoption of emerging technologies	74	43.93	
1.3.2 Investment in emerging technologies	60	41.25	●

Indicator	Rank	Score	
C. Governance pillar	93	47.39	
1st sub-pillar: Trust	106	26.13	
3.1.1 Secure Internet servers	121	26.17	
3.1.2 Cybersecurity	103	34.72	
3.1.3 Online access to financial account	61	30.80	●
3.1.4 Internet shopping	84	12.85	
2nd sub-pillar: Regulation	54	69.19	
3.2.1 Regulatory quality	86	42.55	
3.2.2 ICT regulatory environment	55	85.88	●
3.2.3 Regulation of emerging technologies	44	56.62	●
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	78	60.88	
3rd sub-pillar: Inclusion	99	46.85	
3.3.1 E-Participation	98	32.56	
3.3.2 Socioeconomic gap in use of digital payments	76	67.58	
3.3.3 Availability of local online content	90	49.52	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	54	24.69	●
B. People pillar	116	26.55	
1st sub-pillar: Individuals	115	26.02	
2.1.1 Mobile broadband internet traffic within the country	70	8.63	
2.1.2 ICT skills in the education system	41	58.04	●
2.1.3 Use of virtual social networks	111	14.37	
2.1.4 Tertiary enrollment	103	8.71	
2.1.5 Adult literacy rate	100	40.33	○
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	115	27.68	
2.2.1 Firms with website	91	29.00	
2.2.2 GERD financed by business enterprise	87	2.58	
2.2.3 Knowledge intensive employment	119	3.06	○
2.2.4 Annual investment in telecommunication services	79	76.10	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	103	25.96	
2.3.1 Government online services	98	44.01	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	56	40.80	●
2.3.4 R&D expenditure by governments and higher education	57	10.22	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	105	37.75	
D. Impact pillar	102	44.12	
1st sub-pillar: Economy	91	21.23	
4.1.1 High-tech and medium-high-tech manufacturing	58	26.40	
4.1.2 High-tech exports	100	3.16	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	96	41.05	
4.1.5 Prevalence of gig economy	55	45.06	●
4.1.6 ICT services exports	71	11.69	
2nd sub-pillar: Quality of Life	100	56.16	
4.2.1 Happiness	93	47.51	
4.2.2 Freedom to make life choices	91	63.90	
4.2.3 Income inequality	67	62.56	
4.2.4 Healthy life expectancy at birth	106	50.66	
3rd sub-pillar: SDG Contribution	95	54.96	
4.3.1 SDG 3: Good Health and Well-Being	112	34.01	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	108	61.06	
4.3.4 SDG 7: Affordable and Clean Energy	60	73.70	●
4.3.5 SDG 11: Sustainable Cities and Communities	87	51.07	

NOTE: ● a strength and ○ a weakness.

Sources

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Serbia

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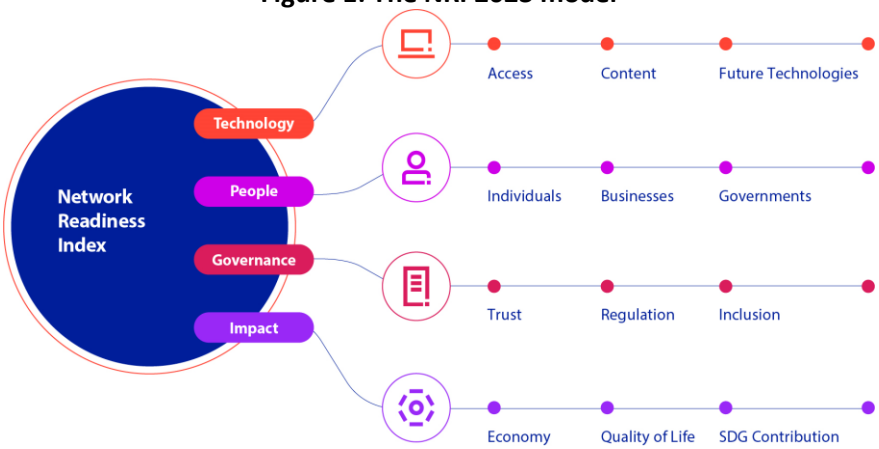
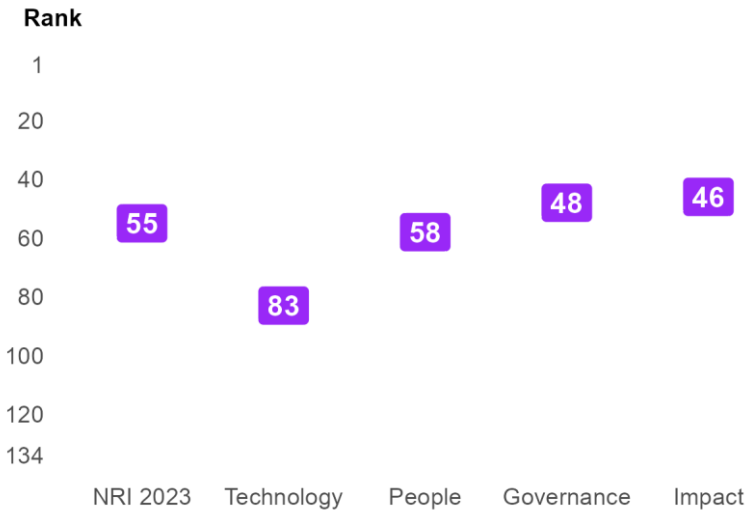
Figure 1: The NRI 2023 model



Global NRI position of Serbia

Serbia ranks 55th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Serbia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Serbia relate to Individuals, Inclusion and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Businesses and Future Technologies sub-pillars.

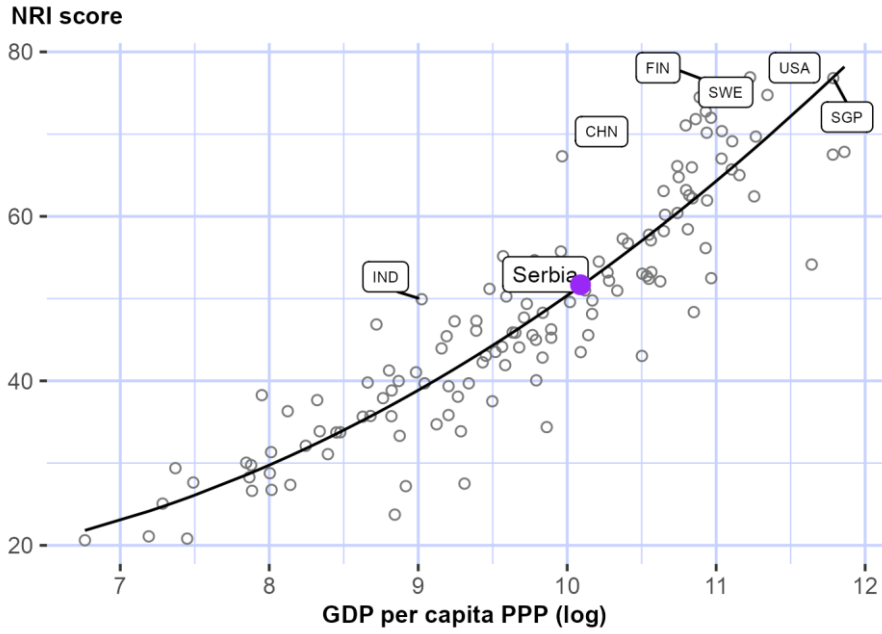
Table 1: Serbia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	36	Content	54
Inclusion	44	Governments	59
Quality of Life	45	Access	66
Regulation	48	SDG Contribution	67
Economy	52	Businesses	72
Trust	53	Future Technologies	115

NRI score and income

Figure 3 shows the position of Serbia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Serbia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Serbia belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Serbia is ranked 8th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, People, Governance and Impact. At the sub-pillar level, it outperforms upper-middle-income countries in ten of the twelve sub-pillars: Access, Content, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Europe

Serbia is ranked 35th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in one of the twelve sub-pillars: Individuals.

Figure 4: Performance of Serbia against its income group and region, overall and by pillar

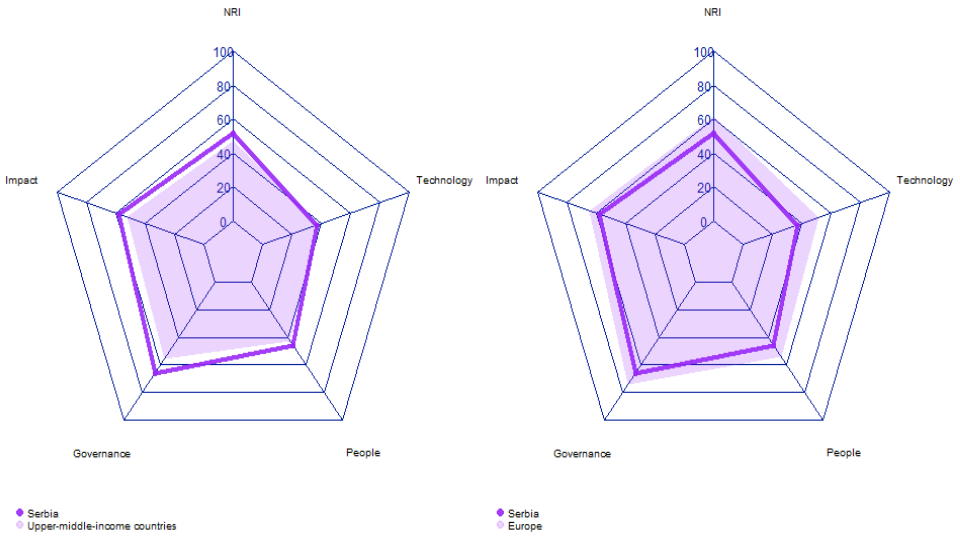


Table 2: Serbia scores vs. averages of its income group and region, overall and by pillar

Dimension	Serbia	Upper-middle-income countries	Europe
NRI	51.68	47.35	61.25
Technology	36.94	38.48	51.90
People	45.92	42.59	54.16
Governance	66.33	55.90	74.33
Impact	57.55	52.43	64.61

Strongest and weakest indicators

The indicators where Serbia performs particularly well include 3.2.4 E-commerce legislation, 3.2.2 ICT regulatory environment, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 4.3.4 SDG 7: Affordable and Clean Energy, and 1.3.2 Investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Serbia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	1.3.3 Robot density	45
3.2.2 ICT regulatory environment	11	2.2.2 GERD financed by business enterprise	86
2.1.5 Adult literacy rate	14	1.3.2 Investment in emerging technologies	93
3.3.1 E-Participation	15	4.3.4 SDG 7: Affordable and Clean Energy	98
4.1.6 ICT services exports	16	1.3.4 Computer software spending	110
2.2.1 Firms with website	21		
2.3.1 Government online services	26		
1.2.3 Mobile apps development	28		
4.3.3 SDG 5: Women's economic opportunity	29		
3.2.5 Privacy protection by law content	31		
3.3.2 Socioeconomic gap in use of digital payments	40		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Serbia

Network Readiness Index Rank: 55 (out of 134) Score: 51.68

Pillar/sub-pillar	Rank	Score
A. Technology pillar	83	36.94
1st sub-pillar: Access	66	64.98
2nd sub-pillar: Content	54	26.72
3rd sub-pillar: Future Technologies	115	19.11
B. People pillar	58	45.92
1st sub-pillar: Individuals	36	53.56
2nd sub-pillar: Businesses	72	43.35
3rd sub-pillar: Governments	59	40.85

Pillar/sub-pillar	Rank	Score
C. Governance pillar	48	66.33
1st sub-pillar: Trust	53	54.87
2nd sub-pillar: Regulation	48	72.18
3rd sub-pillar: Inclusion	44	71.93
D. Impact pillar	46	57.55
1st sub-pillar: Economy	52	34.08
2nd sub-pillar: Quality of Life	45	74.44
3rd sub-pillar: SDG Contribution	67	64.13

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	83	36.94	
1st sub-pillar: Access	66	64.98	
1.1.1 Mobile tariffs	51	69.53	
1.1.2 Handset prices	59	52.40	
1.1.3 FTTH/building Internet subscriptions	68	27.95	
1.1.4 Population covered by at least a 3G mobile network	53	99.83	
1.1.5 International Internet bandwidth	45	75.18	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	54	26.72	
1.2.1 GitHub commits	46	19.00	
1.2.2 Internet domain registrations	59	5.19	
1.2.3 Mobile apps development	28	74.61	•
1.2.4 AI scientific publications	53	8.09	
3rd sub-pillar: Future Technologies	115	19.11	
1.3.1 Adoption of emerging technologies	81	40.36	
1.3.2 Investment in emerging technologies	93	31.25	○

Indicator	Rank	Score	
C. Governance pillar	48	66.33	
1st sub-pillar: Trust	53	54.87	
3.1.1 Secure Internet servers	42	72.97	
3.1.2 Cybersecurity	47	89.62	
3.1.3 Online access to financial account	83	18.74	
3.1.4 Internet shopping	52	38.17	
2nd sub-pillar: Regulation	48	72.18	
3.2.1 Regulatory quality	70	50.78	
3.2.2 ICT regulatory environment	11	94.71	•
3.2.3 Regulation of emerging technologies	80	34.55	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	31	80.86	•
3rd sub-pillar: Inclusion	44	71.93	
3.3.1 E-Participation	15	80.23	•
3.3.2 Socioeconomic gap in use of digital payments	40	88.33	•
3.3.3 Availability of local online content	53	66.59	

Indicator	Rank	Score	
1.3.3 Robot density	45	1.92	○
1.3.4 Computer software spending	110	2.90	○
B. People pillar	58	45.92	
1st sub-pillar: Individuals	36	53.56	
2.1.1 Mobile broadband internet traffic within the country	56	11.12	
2.1.2 ICT skills in the education system	67	46.93	
2.1.3 Use of virtual social networks	65	65.59	
2.1.4 Tertiary enrollment	41	44.86	
2.1.5 Adult literacy rate	14	99.29	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	72	43.35	
2.2.1 Firms with website	21	80.41	●
2.2.2 GERD financed by business enterprise	86	2.60	○
2.2.3 Knowledge intensive employment	46	41.58	
2.2.4 Annual investment in telecommunication services	50	80.65	
2.2.5 GERD performed by business enterprise	42	11.51	
3rd sub-pillar: Governments	59	40.85	
2.3.1 Government online services	26	83.58	●
2.3.2 Publication and use of open data	68	23.53	
2.3.3 Government promotion of investment in emerging tech	61	38.62	
2.3.4 R&D expenditure by governments and higher education	40	17.67	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	79	62.51	
3.3.5 Rural gap in use of digital payments	70	62.00	
D. Impact pillar	46	57.55	
1st sub-pillar: Economy	52	34.08	
4.1.1 High-tech and medium-high-tech manufacturing	53	29.22	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	49	6.82	
4.1.4 Domestic market size	75	49.28	
4.1.5 Prevalence of gig economy	81	35.17	
4.1.6 ICT services exports	16	49.92	●
2nd sub-pillar: Quality of Life	45	74.44	
4.2.1 Happiness	43	72.40	
4.2.2 Freedom to make life choices	53	79.19	
4.2.3 Income inequality	49	70.35	
4.2.4 Healthy life expectancy at birth	55	75.83	
3rd sub-pillar: SDG Contribution	67	64.13	
4.3.1 SDG 3: Good Health and Well-Being	65	69.51	
4.3.2 SDG 4: Quality Education	43	44.27	
4.3.3 SDG 5: Women's economic opportunity	29	91.15	●
4.3.4 SDG 7: Affordable and Clean Energy	98	61.71	○
4.3.5 SDG 11: Sustainable Cities and Communities	84	54.01	

NOTE: ● a strength and ○ a weakness.

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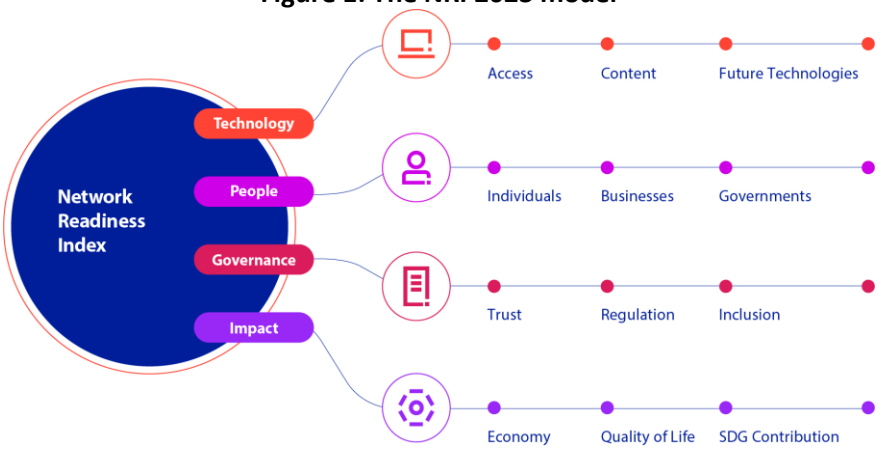
Singapore

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

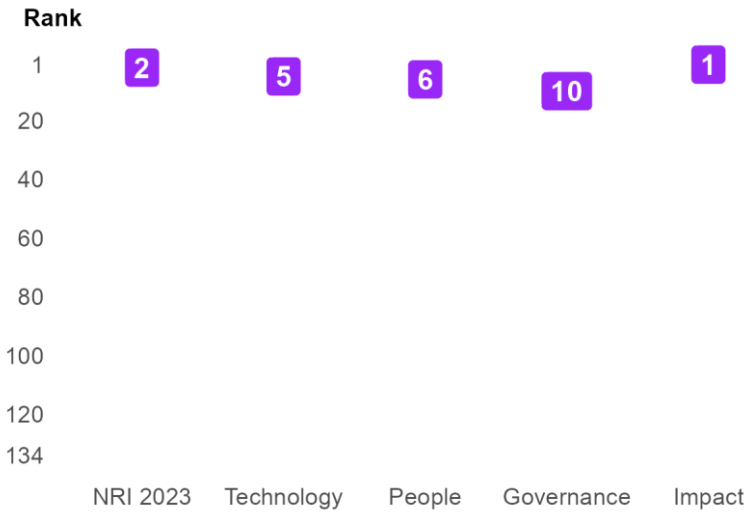
Figure 1: The NRI 2023 model



Global NRI position of Singapore

Singapore ranks 2nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Singapore global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Singapore relate to Inclusion, Economy and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Content, Businesses and Trust sub-pillars.

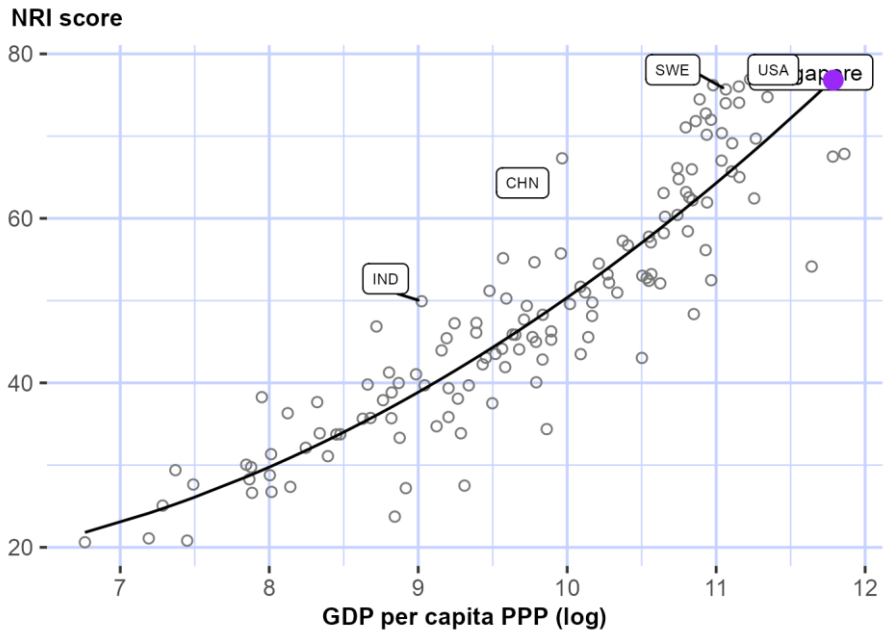
Table 1: Singapore rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Inclusion	1	Regulation	10
Economy	1	Quality of Life	10
Access	2	Governments	11
Future Technologies	2	Content	13
Individuals	8	Businesses	15
SDG Contribution	8	Trust	17

NRI score and income

Figure 3 shows the position of Singapore in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Singapore is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Singapore belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

High-income countries

Singapore is ranked 2nd in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Asia & Pacific

Singapore is ranked 1st within Asia & Pacific (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Singapore against its income group and region, overall and by pillar

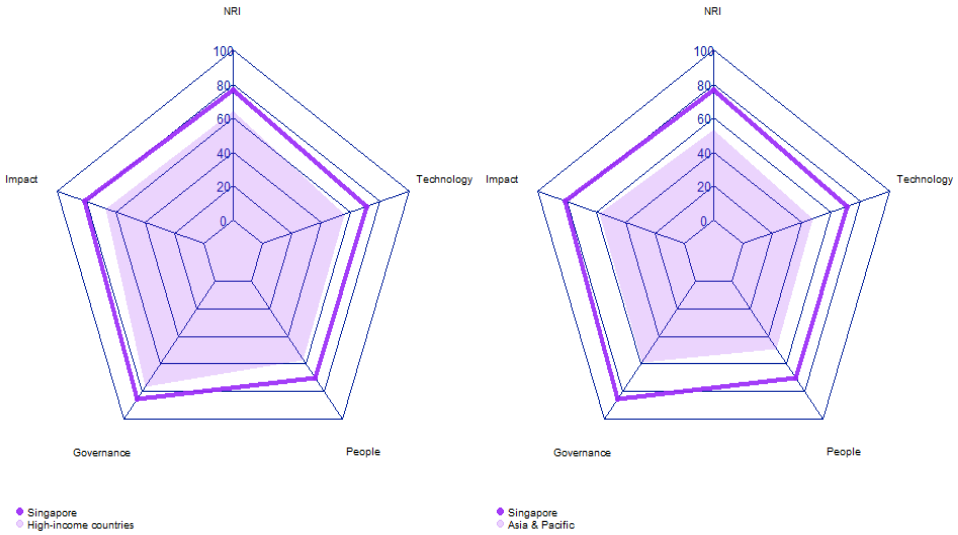


Table 2: Singapore scores vs. averages of its income group and region, overall and by pillar

Dimension	Singapore	High-income countries	Asia & Pacific
NRI	76.81	64.07	53.28
Technology	70.57	55.76	47.34
People	69.89	56.99	48.95
Governance	85.58	76.81	59.22
Impact	81.20	66.73	57.62

Strongest and weakest indicators

The indicators where Singapore performs particularly well include 1.1.2 Handset prices, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 1.1.3 FTTH/building Internet subscriptions, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Highlight of Strengths and Opportunities for Singapore

Strongest indicators	Rank	Weakest indicators	Rank
1.1.2 Handset prices	1	3.3.4 Gender gap in Internet use	56
1.1.4 Population covered by at least a 3G mobile network	1	4.3.3 SDG 5: Women's economic opportunity	71
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	73
1.2.1 GitHub commits	1	3.2.5 Privacy protection by law content	93
1.3.3 Robot density	1		
3.2.1 Regulatory quality	1		
3.2.4 E-commerce legislation	1		
4.1.1 High-tech and medium-high-tech manufacturing	1		
4.1.2 High-tech exports	1		
2.2.3 Knowledge intensive employment	2		
2.3.3 Government promotion of investment in emerging technologies	2		
3.3.5 Rural gap in use of digital payments	2		
4.2.4 Healthy life expectancy at birth	2		
4.3.2 SDG 4: Quality Education	2		
2.1.2 ICT skills in the education system	3		
3.2.3 Regulation of emerging technologies	3		
3.3.1 E-Participation	3		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Singapore

Network Readiness Index — Rank: 2 (out of 134) — Score: 76.81

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	5	70.57	C. Governance pillar	10	85.58
1st sub-pillar: Access	2	86.01	1st sub-pillar: Trust	17	79.12
2nd sub-pillar: Content	13	53.20	2nd sub-pillar: Regulation	10	87.76
3rd sub-pillar: Future Technologies	2	72.51	3rd sub-pillar: Inclusion	1	89.86
B. People pillar	6	69.89	D. Impact pillar	1	81.20
1st sub-pillar: Individuals	8	67.81	1st sub-pillar: Economy	1	70.45
2nd sub-pillar: Businesses	15	70.56	2nd sub-pillar: Quality of Life	10	86.95
3rd sub-pillar: Governments	11	71.30	3rd sub-pillar: SDG Contribution	8	86.22

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	5	70.57		**C. Governance pillar**	10	85.58	
1st sub-pillar: Access	2	86.01		*1st sub-pillar: Trust*	17	79.12	
1.1.1 Mobile tariffs	4	97.76		3.1.1 Secure Internet servers	4	93.86	
1.1.2 Handset prices	1	100.00	●	3.1.2 Cybersecurity	5	98.49	
1.1.3 FTTH/building Internet subscriptions	73	25.95	○	3.1.3 Online access to financial account	26	56.92	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●	3.1.4 Internet shopping	25	67.20	
1.1.5 International Internet bandwidth	4	92.37		*2nd sub-pillar: Regulation*	10	87.76	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	1	100.00	●
2nd sub-pillar: Content	13	53.20		3.2.2 ICT regulatory environment	21	93.53	
1.2.1 GitHub commits	1	100.00	●	3.2.3 Regulation of emerging technologies	3	93.77	●
1.2.2 Internet domain registrations	33	20.33		3.2.4 E-commerce legislation	1	100.00	●
1.2.3 Mobile apps development	4	85.46		3.2.5 Privacy protection by law content	93	51.49	○
1.2.4 AI scientific publications	60	7.01		*3rd sub-pillar: Inclusion*	1	89.86	
3rd sub-pillar: Future Technologies	2	72.51		3.3.1 E-Participation	3	97.68	●
1.3.1 Adoption of emerging technologies	8	88.54		3.3.2 Socioeconomic gap in use of digital payments	28	92.85	
1.3.2 Investment in emerging technologies	13	78.50		3.3.3 Availability of local online content	10	91.59	
1.3.3 Robot density	1	100.00	●	3.3.4 Gender gap in Internet use	56	68.31	○

Indicator	Rank	Score	
1.3.4 Computer software spending	59	22.99	
B. People pillar	6	69.89	
1st sub-pillar: Individuals	8	67.81	
2.1.1 Mobile broadband internet traffic within the country	53	11.92	
2.1.2 ICT skills in the education system	3	89.85	●
2.1.3 Use of virtual social networks	14	80.16	
2.1.4 Tertiary enrollment	9	61.03	
2.1.5 Adult literacy rate	37	96.08	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	15	70.56	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	16	72.11	
2.2.3 Knowledge intensive employment	2	93.05	●
2.2.4 Annual investment in telecommunication services	47	81.04	
2.2.5 GERD performed by business enterprise	18	36.03	
3rd sub-pillar: Governments	11	71.30	
2.3.1 Government online services	5	95.80	
2.3.2 Publication and use of open data	27	50.00	
2.3.3 Government promotion of investment in emerging tech	2	99.63	●
2.3.4 R&D expenditure by governments and higher education	16	39.78	

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	2	98.86	●
D. Impact pillar	1	81.20	
1st sub-pillar: Economy	1	70.45	
4.1.1 High-tech and medium-high-tech manufacturing	1	100.00	●
4.1.2 High-tech exports	1	100.00	●
4.1.3 PCT patent applications	11	54.87	
4.1.4 Domestic market size	37	63.49	
4.1.5 Prevalence of gig economy	10	81.40	
4.1.6 ICT services exports	46	22.92	
2nd sub-pillar: Quality of Life	10	86.95	
4.2.1 Happiness	28	78.75	
4.2.2 Freedom to make life choices	34	83.91	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	2	98.18	●
3rd sub-pillar: SDG Contribution	8	86.22	
4.3.1 SDG 3: Good Health and Well-Being	10	94.30	
4.3.2 SDG 4: Quality Education	2	90.79	●
4.3.3 SDG 5: Women's economic opportunity	71	75.22	○
4.3.4 SDG 7: Affordable and Clean Energy	30	79.26	
4.3.5 SDG 11: Sustainable Cities and Communities	18	91.51	

NOTE: ● a strength and ○ a weakness.

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Slovakia

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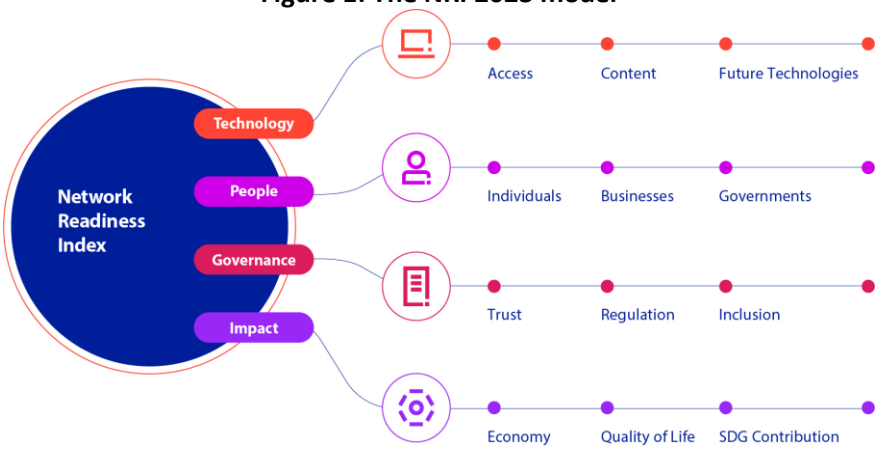
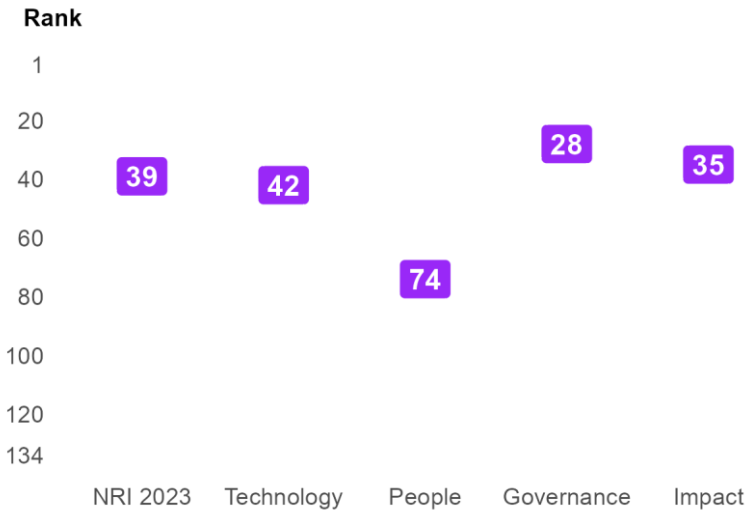
Figure 1: The NRI 2023 model



Global NRI position of Slovakia

Slovakia ranks 39th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Slovakia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Slovakia relate to Access, Trust and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Governments and Individuals sub-pillars.

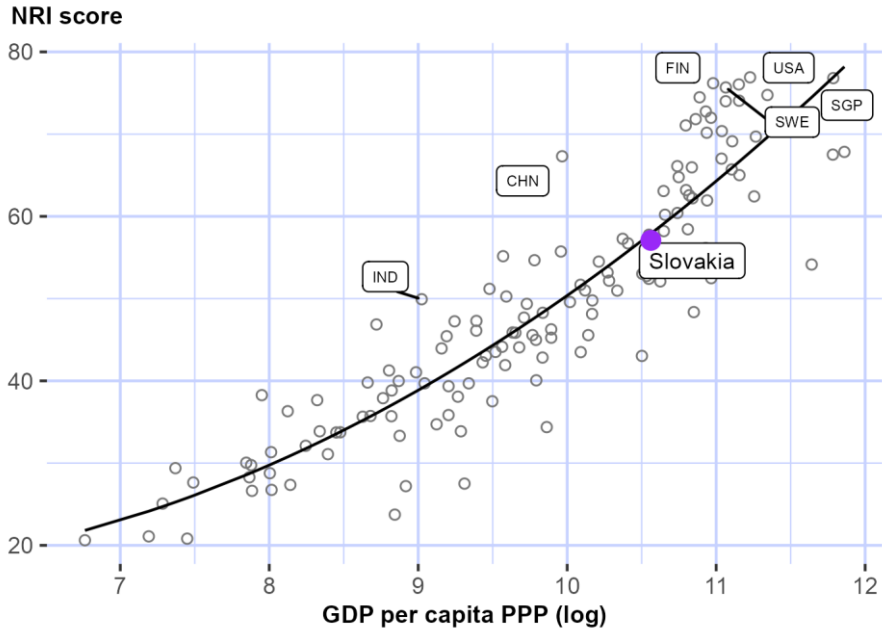
Table 1: Slovakia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	21	SDG Contribution	44
Trust	22	Inclusion	45
Quality of Life	28	Future Technologies	47
Regulation	32	Economy	51
Businesses	39	Governments	58
Content	44	Individuals	112

NRI score and income

Figure 3 shows the position of Slovakia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Slovakia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Slovakia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Slovakia is ranked 37th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in two of the twelve sub-pillars: Access and Trust.

Europe

Slovakia is ranked 28th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Governance. With regard to sub-pillars, it outperforms the average in Europe in three of the twelve sub-pillars: Access, Trust and Quality of Life.

Figure 4: Performance of Slovakia against its income group and region, overall and by pillar

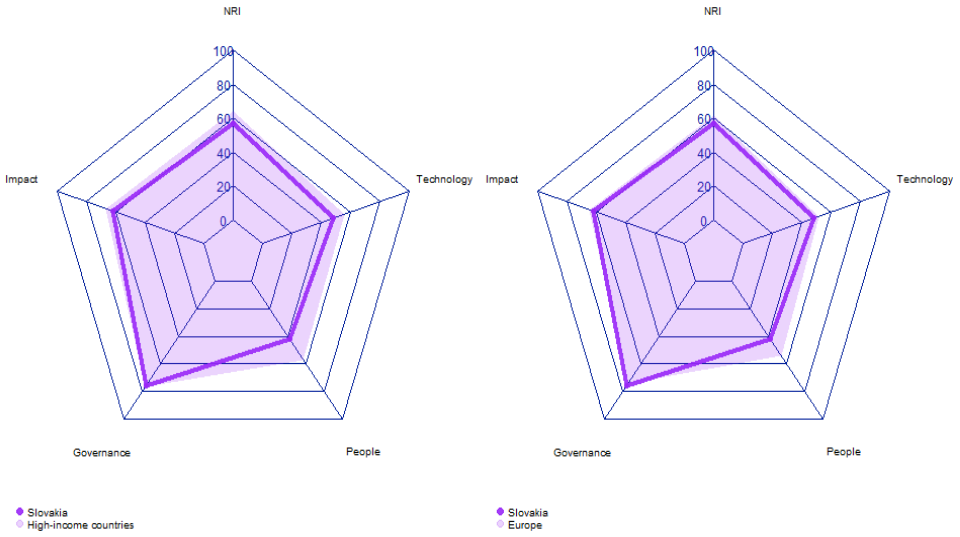


Table 2: Slovakia scores vs. averages of its income group and region, overall and by pillar

Dimension	Slovakia	High-income countries	Europe
NRI	57.08	64.07	61.25
Technology	48.42	55.76	51.90
People	41.84	56.99	54.16
Governance	76.06	76.81	74.33
Impact	62.01	66.73	64.61

Strongest and weakest indicators

The indicators where Slovakia performs particularly well include 3.2.4 E-commerce legislation, 4.2.3 Income inequality, and 4.1.1 High-tech and medium-high-tech manufacturing (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 2.3.3 Government promotion of investment in emerging technologies, and 4.1.5 Prevalence of gig economy.

Table 3: Highlight of Strengths and Opportunities for Slovakia

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	36
4.2.3 Income inequality	1	4.1.5 Prevalence of gig economy	77
4.1.1 High-tech and medium-high-tech manufacturing	3	2.3.3 Government promotion of investment in emerging technologies	89
1.1.1 Mobile tariffs	12	4.2.2 Freedom to make life choices	93
3.1.4 Internet shopping	17		
3.1.3 Online access to financial account	24		
3.3.5 Rural gap in use of digital payments	24		
3.1.1 Secure Internet servers	25		
2.2.1 Firms with website	26		
3.2.5 Privacy protection by law content	27		
3.3.3 Availability of local online content	29		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Slovakia

Network Readiness Index — Rank: 39 (out of 134) — Score: 57.08

Pillar/sub-pillar	Rank	Score
A. Technology pillar	42	48.42
1st sub-pillar: Access	21	76.09
2nd sub-pillar: Content	44	30.03
3rd sub-pillar: Future Technologies	47	39.13
B. People pillar	74	41.84
1st sub-pillar: Individuals	112	28.41
2nd sub-pillar: Businesses	39	56.25
3rd sub-pillar: Governments	58	40.85

Pillar/sub-pillar	Rank	Score
C. Governance pillar	28	76.06
1st sub-pillar: Trust	22	77.60
2nd sub-pillar: Regulation	32	78.75
3rd sub-pillar: Inclusion	45	71.82
D. Impact pillar	35	62.01
1st sub-pillar: Economy	51	34.09
2nd sub-pillar: Quality of Life	28	79.52
3rd sub-pillar: SDG Contribution	44	72.41

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	42	48.42	
1st sub-pillar: Access	21	76.09	
1.1.1 Mobile tariffs	12	89.35	•
1.1.2 Handset prices	33	69.12	
1.1.3 FTTH/building Internet subscriptions	61	29.80	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	81	68.88	
1.1.6 Internet access in schools	28	99.70	
2nd sub-pillar: Content	44	30.03	
1.2.1 GitHub commits	42	22.00	
1.2.2 Internet domain registrations	32	20.43	
1.2.3 Mobile apps development	43	72.06	
1.2.4 AI scientific publications	67	5.65	
3rd sub-pillar: Future Technologies	47	39.13	
1.3.1 Adoption of emerging technologies	40	59.51	
1.3.2 Investment in emerging technologies	44	49.25	

Indicator	Rank	Score	
C. Governance pillar	28	76.06	
1st sub-pillar: Trust	22	77.60	
3.1.1 Secure Internet servers	25	81.09	•
3.1.2 Cybersecurity	42	92.23	
3.1.3 Online access to financial account	24	58.94	•
3.1.4 Internet shopping	17	78.15	•
2nd sub-pillar: Regulation	32	78.75	
3.2.1 Regulatory quality	32	69.35	
3.2.2 ICT regulatory environment	42	87.65	
3.2.3 Regulation of emerging technologies	48	54.29	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	27	82.47	•
3rd sub-pillar: Inclusion	45	71.82	
3.3.1 E-Participation	80	45.35	
3.3.2 Socioeconomic gap in use of digital payments	45	85.89	
3.3.3 Availability of local online content	29	82.93	•

Indicator	Rank	Score	
1.3.3 Robot density	21	21.49	
1.3.4 Computer software spending	49	26.26	
B. People pillar	74	41.84	
1st sub-pillar: Individuals	112	28.41	
2.1.1 Mobile broadband internet traffic within the country	73	7.45	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	62	66.86	
2.1.4 Tertiary enrollment	67	30.31	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	36	9.01	○
2nd sub-pillar: Businesses	39	56.25	
2.2.1 Firms with website	26	76.53	●
2.2.2 GERD financed by business enterprise	37	54.04	
2.2.3 Knowledge intensive employment	33	57.93	
2.2.4 Annual investment in telecommunication services	54	79.35	
2.2.5 GERD performed by business enterprise	38	13.37	
3rd sub-pillar: Governments	58	40.85	
2.3.1 Government online services	62	69.72	
2.3.2 Publication and use of open data	31	47.06	
2.3.3 Government promotion of investment in emerging tech	89	30.02	○
2.3.4 R&D expenditure by governments and higher education	44	16.62	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	44	69.52	
3.3.5 Rural gap in use of digital payments	24	75.42	●
D. Impact pillar	35	62.01	
1st sub-pillar: Economy	51	34.09	
4.1.1 High-tech and medium-high-tech manufacturing	3	77.71	●
4.1.2 High-tech exports	54	16.08	
4.1.3 PCT patent applications	46	7.97	
4.1.4 Domestic market size	67	51.73	
4.1.5 Prevalence of gig economy	77	36.05	○
4.1.6 ICT services exports	62	15.02	
2nd sub-pillar: Quality of Life	28	79.52	
4.2.1 Happiness	31	75.63	
4.2.2 Freedom to make life choices	93	61.08	○
4.2.3 Income inequality	1	100.00	●
4.2.4 Healthy life expectancy at birth	40	81.38	
3rd sub-pillar: SDG Contribution	44	72.41	
4.3.1 SDG 3: Good Health and Well-Being	44	79.06	
4.3.2 SDG 4: Quality Education	37	55.24	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	73	69.94	
4.3.5 SDG 11: Sustainable Cities and Communities	39	79.04	

NOTE: ● a strength and ○ a weakness.

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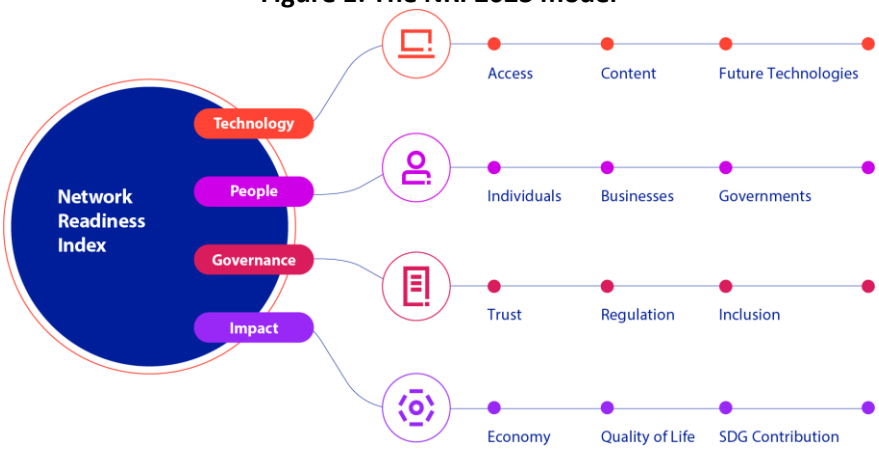
Slovenia

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

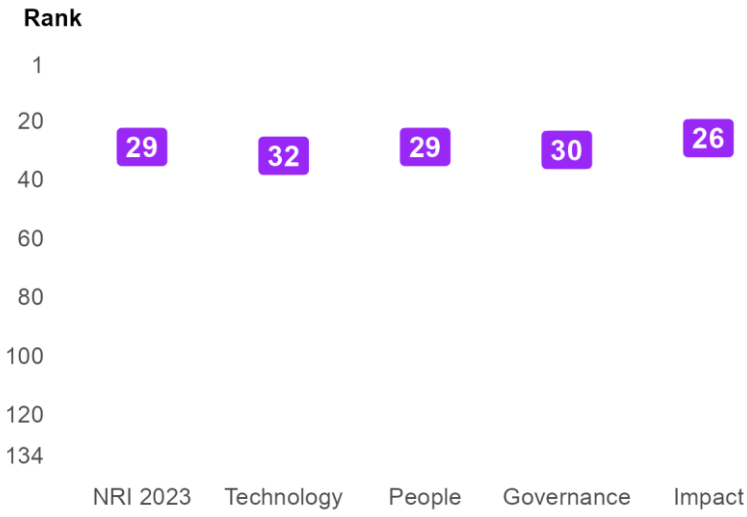
Figure 1: The NRI 2023 model



Global NRI position of Slovenia

Slovenia ranks 29th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Slovenia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Slovenia relate to Quality of Life, Businesses and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Economy and Individuals sub-pillars.

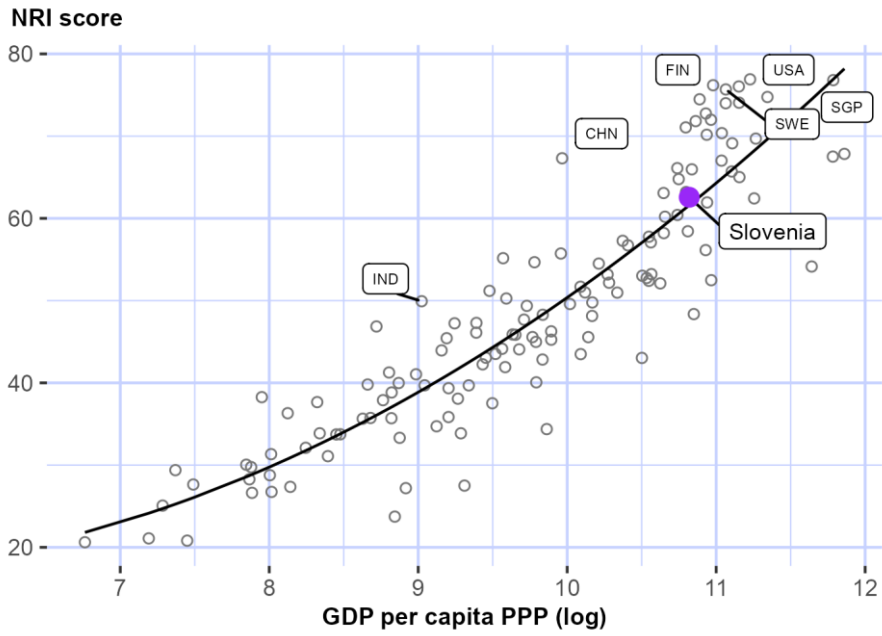
Table 1: Slovenia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	6	Inclusion	34
Businesses	19	Content	36
Regulation	22	Trust	36
SDG Contribution	22	Future Technologies	41
Governments	23	Economy	54
Access	24	Individuals	83

NRI score and income

Figure 3 shows the position of Slovenia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Slovenia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Slovenia belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Slovenia is ranked 28th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Access, Businesses, Regulation, Quality of Life and SDG Contribution.

Europe

Slovenia is ranked 20th within Europe (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in Europe in seven of the twelve sub-pillars: Access, Businesses, Governments, Regulation, Inclusion, Quality of Life and SDG Contribution.

Figure 4: Performance of Slovenia against its income group and region, overall and by pillar

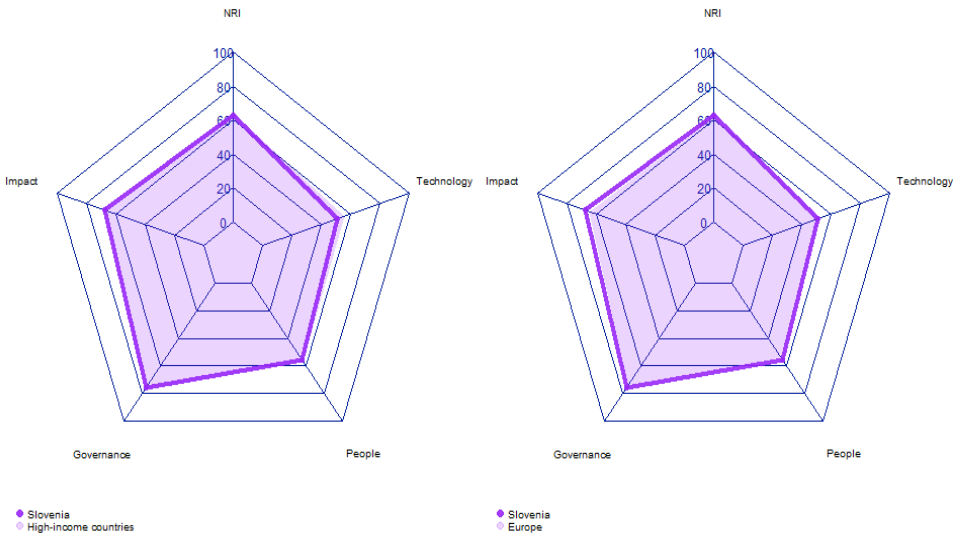


Table 2: Slovenia scores vs. averages of its income group and region, overall and by pillar

Dimension	Slovenia	High-income countries	Europe
NRI	62.57	64.07	61.25
Technology	51.25	55.76	51.90
People	55.60	56.99	54.16
Governance	75.69	76.81	74.33
Impact	67.73	66.73	64.61

Strongest and weakest indicators

The indicators where Slovenia performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.2.3 Income inequality (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 4.1.4 Domestic market size, 1.1.3 FTTH/building Internet subscriptions, and 2.1.1 Mobile broadband internet traffic within the country.

Table 3: Highlight of Strengths and Opportunities for Slovenia

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	86
3.2.4 E-commerce legislation	1	2.1.1 Mobile broadband internet traffic within the country	86
4.2.3 Income inequality	2	4.1.4 Domestic market size	88
3.2.2 ICT regulatory environment	3	1.3.4 Computer software spending	94
1.1.1 Mobile tariffs	5		
4.2.2 Freedom to make life choices	11		
4.3.2 SDG 4: Quality Education	11		
1.2.3 Mobile apps development	12		
2.2.1 Firms with website	12		
3.1.1 Secure Internet servers	13		
2.2.3 Knowledge intensive employment	18		
2.3.4 R&D expenditure by governments and higher education	18		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Slovenia

Network Readiness Index Rank: 29 (out of 134) Score: 62.57

Pillar/sub-pillar	Rank	Score
A. Technology pillar	32	51.25
1st sub-pillar: Access	24	75.62
2nd sub-pillar: Content	36	36.50
3rd sub-pillar: Future Technologies	41	41.63
B. People pillar	29	55.60
1st sub-pillar: Individuals	83	43.11
2nd sub-pillar: Businesses	19	67.19
3rd sub-pillar: Governments	23	56.50

Pillar/sub-pillar	Rank	Score
C. Governance pillar	30	75.69
1st sub-pillar: Trust	36	69.07
2nd sub-pillar: Regulation	22	82.75
3rd sub-pillar: Inclusion	34	75.25
D. Impact pillar	26	67.73
1st sub-pillar: Economy	54	32.33
2nd sub-pillar: Quality of Life	6	90.14
3rd sub-pillar: SDG Contribution	22	80.73

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	32	51.25	
1st sub-pillar: Access	24	75.62	
1.1.1 Mobile tariffs	5	96.90	●
1.1.2 Handset prices	40	64.04	
1.1.3 FTTH/building Internet subscriptions	86	20.86	○
1.1.4 Population covered by at least a 3G mobile network	44	99.92	
1.1.5 International Internet bandwidth	62	72.00	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	36	36.50	
1.2.1 GitHub commits	30	36.24	
1.2.2 Internet domain registrations	26	27.56	
1.2.3 Mobile apps development	12	78.04	●
1.2.4 AI scientific publications	75	4.15	
3rd sub-pillar: Future Technologies	41	41.63	
1.3.1 Adoption of emerging technologies	28	69.85	
1.3.2 Investment in emerging technologies	41	51.50	

Indicator	Rank	Score	
C. Governance pillar	30	75.69	
1st sub-pillar: Trust	36	69.07	
3.1.1 Secure Internet servers	13	86.19	●
3.1.2 Cybersecurity	75	74.49	
3.1.3 Online access to financial account	30	52.32	
3.1.4 Internet shopping	30	63.26	
2nd sub-pillar: Regulation	22	82.75	
3.2.1 Regulatory quality	37	68.45	
3.2.2 ICT regulatory environment	3	97.65	●
3.2.3 Regulation of emerging technologies	32	64.68	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	25	83.00	
3rd sub-pillar: Inclusion	34	75.25	
3.3.1 E-Participation	25	74.42	
3.3.2 Socioeconomic gap in use of digital payments	34	90.40	
3.3.3 Availability of local online content	49	68.27	

Indicator	Rank	Score	
1.3.3 Robot density	10	38.88	
1.3.4 Computer software spending	94	6.27	○
B. People pillar	29	55.60	
1st sub-pillar: Individuals	83	43.11	
2.1.1 Mobile broadband internet traffic within the country	86	4.75	○
2.1.2 ICT skills in the education system	31	67.86	
2.1.3 Use of virtual social networks	41	73.02	
2.1.4 Tertiary enrollment	23	52.11	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	24	17.81	
2nd sub-pillar: Businesses	19	67.19	
2.2.1 Firms with website	12	85.26	●
2.2.2 GERD financed by business enterprise	31	61.23	
2.2.3 Knowledge intensive employment	18	71.53	●
2.2.4 Annual investment in telecommunication services	68	77.69	
2.2.5 GERD performed by business enterprise	15	40.24	
3rd sub-pillar: Governments	23	56.50	
2.3.1 Government online services	22	85.26	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	49	45.86	
2.3.4 R&D expenditure by governments and higher education	18	38.39	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	54	68.60	
3.3.5 Rural gap in use of digital payments	30	74.54	
D. Impact pillar	26	67.73	
1st sub-pillar: Economy	54	32.33	
4.1.1 High-tech and medium-high-tech manufacturing	25	52.39	
4.1.2 High-tech exports	66	11.65	
4.1.3 PCT patent applications	25	33.06	
4.1.4 Domestic market size	88	44.82	○
4.1.5 Prevalence of gig economy	71	37.50	
4.1.6 ICT services exports	63	14.56	
2nd sub-pillar: Quality of Life	6	90.14	
4.2.1 Happiness	21	81.30	
4.2.2 Freedom to make life choices	11	92.51	●
4.2.3 Income inequality	2	97.99	●
4.2.4 Healthy life expectancy at birth	25	88.76	
3rd sub-pillar: SDG Contribution	22	80.73	
4.3.1 SDG 3: Good Health and Well-Being	31	84.21	
4.3.2 SDG 4: Quality Education	11	69.26	●
4.3.3 SDG 5: Women's economic opportunity	20	95.58	
4.3.4 SDG 7: Affordable and Clean Energy	62	73.41	
4.3.5 SDG 11: Sustainable Cities and Communities	34	81.18	

NOTE: ● a strength and ○ a weakness.

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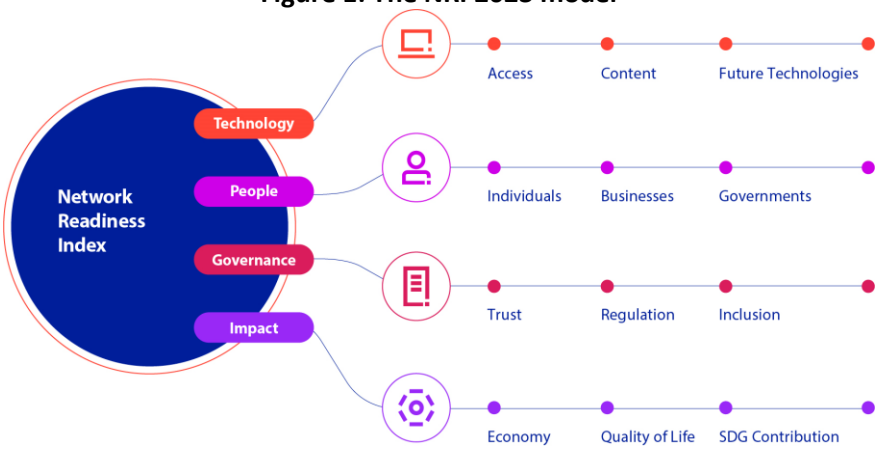
South Africa

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

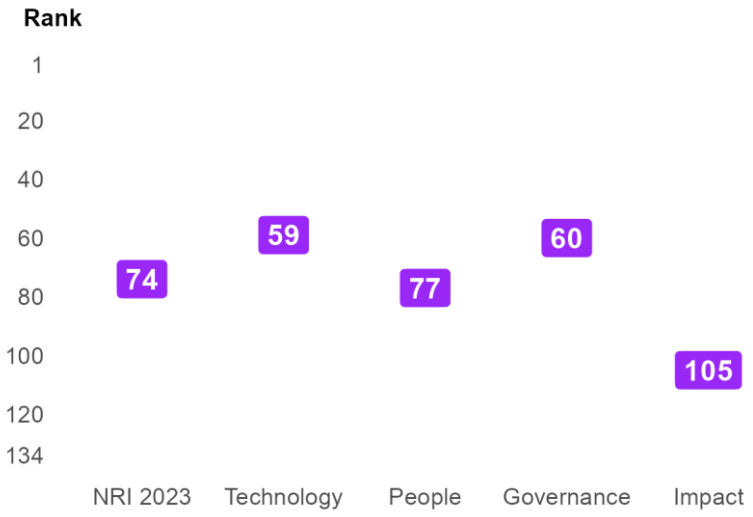
Figure 1: The NRI 2023 model



Global NRI position of South Africa

South Africa ranks 74th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: South Africa global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of South Africa relate to Future Technologies, Businesses and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Quality of Life sub-pillars.

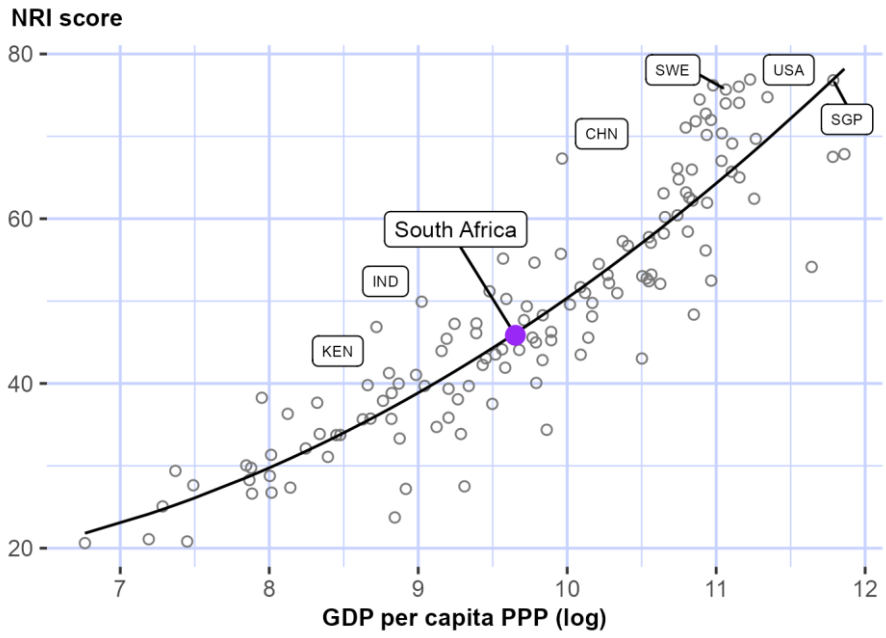
Table 1: South Africa rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	49	Regulation	67
Businesses	58	SDG Contribution	70
Trust	60	Access	71
Content	61	Economy	75
Inclusion	65	Individuals	104
Governments	66	Quality of Life	124

NRI score and income

Figure 3 shows the position of South Africa in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, South Africa is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). South Africa belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Upper-middle-income countries

South Africa is ranked 21st in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: Technology and Governance. At the sub-pillar level, it outperforms upper-middle-income countries in seven of the twelve sub-pillars: Content, Future Technologies, Businesses, Governments, Trust, Regulation and Inclusion.

Africa

South Africa is ranked 2nd within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of South Africa against its income group and region, overall and by pillar

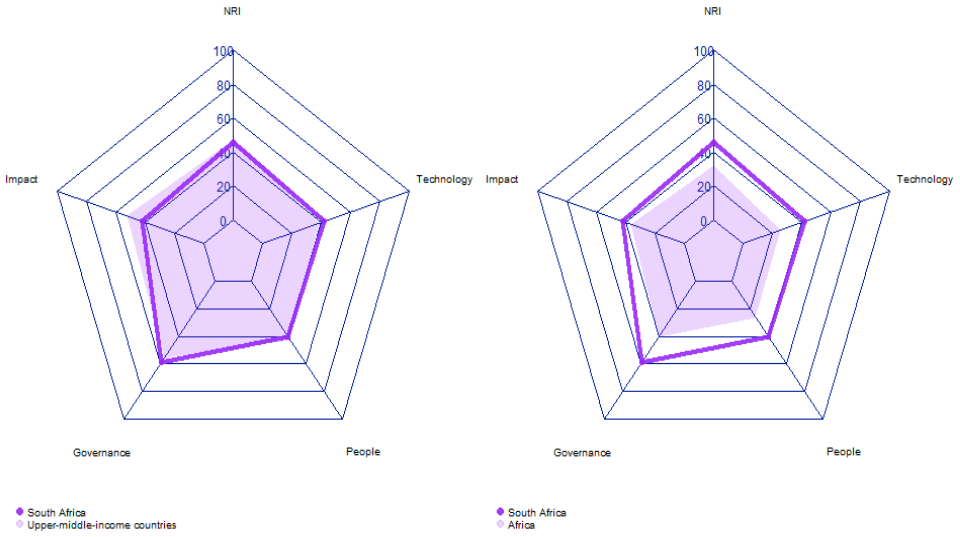


Table 2: South Africa scores vs. averages of its income group and region, overall and by pillar

Dimension	South Africa	Upper-middle-income countries	Africa
NRI	45.85	47.35	32.14
Technology	41.74	38.48	25.14
People	40.31	42.59	26.19
Governance	59.14	55.90	40.44
Impact	42.20	52.43	36.77

Strongest and weakest indicators

The indicators where South Africa performs particularly well include 3.2.4 E-commerce legislation, 2.2.1 Firms with website, and 2.2.4 Annual investment in telecommunication services (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 4.2.3 Income inequality, and 4.2.4 Healthy life expectancy at birth.

Table 3: Highlight of Strengths and Opportunities for South Africa

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	47
2.2.1 Firms with website	20	4.2.2 Freedom to make life choices	109
2.2.4 Annual investment in telecommunication services	24	4.2.4 Healthy life expectancy at birth	115
1.2.4 AI scientific publications	25	4.2.3 Income inequality	116
1.3.4 Computer software spending	28	4.3.4 SDG 7: Affordable and Clean Energy	119
1.1.3 FTTH/building Internet subscriptions	31		
4.1.4 Domestic market size	32		
1.1.5 International Internet bandwidth	33		
1.3.1 Adoption of emerging technologies	33		
1.1.4 Population covered by at least a 3G mobile network	36		
3.1.1 Secure Internet servers	37		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: South Africa

Network Readiness Index Rank: 74 (out of 134) Score: 45.85

Pillar/sub-pillar	Rank	Score
A. Technology pillar	59	41.74
1st sub-pillar: Access	71	62.87
2nd sub-pillar: Content	61	24.01
3rd sub-pillar: Future Technologies	49	38.34
B. People pillar	77	40.31
1st sub-pillar: Individuals	104	34.18
2nd sub-pillar: Businesses	58	47.48
3rd sub-pillar: Governments	66	39.28

Pillar/sub-pillar	Rank	Score
C. Governance pillar	60	59.14
1st sub-pillar: Trust	60	49.52
2nd sub-pillar: Regulation	67	65.80
3rd sub-pillar: Inclusion	65	62.10
D. Impact pillar	105	42.20
1st sub-pillar: Economy	75	25.47
2nd sub-pillar: Quality of Life	124	38.76
3rd sub-pillar: SDG Contribution	70	62.36

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	59	41.74	
1st sub-pillar: Access	71	62.87	
1.1.1 Mobile tariffs	83	52.35	
1.1.2 Handset prices	74	42.96	
1.1.3 FTTH/building Internet subscriptions	31	42.18	•
1.1.4 Population covered by at least a 3G mobile network	36	99.96	•
1.1.5 International Internet bandwidth	33	76.88	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	61	24.01	
1.2.1 GitHub commits	72	4.95	
1.2.2 Internet domain registrations	49	7.26	
1.2.3 Mobile apps development	81	61.55	
1.2.4 AI scientific publications	25	22.30	•
3rd sub-pillar: Future Technologies	49	38.34	
1.3.1 Adoption of emerging technologies	33	64.29	•
1.3.2 Investment in emerging technologies	40	51.75	

Indicator	Rank	Score	
C. Governance pillar	60	59.14	
1st sub-pillar: Trust	60	49.52	
3.1.1 Secure Internet servers	37	76.48	•
3.1.2 Cybersecurity	67	78.08	
3.1.3 Online access to financial account	66	28.13	
3.1.4 Internet shopping	79	15.39	
2nd sub-pillar: Regulation	67	65.80	
3.2.1 Regulatory quality	74	47.95	
3.2.2 ICT regulatory environment	69	83.88	
3.2.3 Regulation of emerging technologies	60	45.45	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	92	51.70	
3rd sub-pillar: Inclusion	65	62.10	
3.3.1 E-Participation	61	58.14	
3.3.2 Socioeconomic gap in use of digital payments	69	72.97	
3.3.3 Availability of local online content	89	49.76	

Indicator	Rank	Score	
1.3.3 Robot density	39	5.07	
1.3.4 Computer software spending	28	32.26	●
B. People pillar	77	40.31	
1st sub-pillar: Individuals	104	34.18	
2.1.1 Mobile broadband internet traffic within the country	34	23.26	
2.1.2 ICT skills in the education system	85	34.79	
2.1.3 Use of virtual social networks	95	39.30	
2.1.4 Tertiary enrollment	94	14.52	
2.1.5 Adult literacy rate	51	93.20	
2.1.6 AI talent concentration	47	0.00	○
2nd sub-pillar: Businesses	58	47.48	
2.2.1 Firms with website	20	80.98	●
2.2.2 GERD financed by business enterprise	60	33.57	
2.2.3 Knowledge intensive employment	64	31.84	
2.2.4 Annual investment in telecommunication services	24	85.61	●
2.2.5 GERD performed by business enterprise	51	5.38	
3rd sub-pillar: Governments	66	39.28	
2.3.1 Government online services	55	72.23	
2.3.2 Publication and use of open data	38	41.18	
2.3.3 Government promotion of investment in emerging tech	84	31.64	
2.3.4 R&D expenditure by governments and higher education	54	12.06	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	54	67.52	
D. Impact pillar	105	42.20	
1st sub-pillar: Economy	75	25.47	
4.1.1 High-tech and medium-high-tech manufacturing	55	28.12	
4.1.2 High-tech exports	72	9.95	
4.1.3 PCT patent applications	40	8.86	
4.1.4 Domestic market size	32	66.45	●
4.1.5 Prevalence of gig economy	86	33.72	
4.1.6 ICT services exports	94	5.73	
2nd sub-pillar: Quality of Life	124	38.76	
4.2.1 Happiness	76	60.38	
4.2.2 Freedom to make life choices	109	54.76	○
4.2.3 Income inequality	116	0.00	○
4.2.4 Healthy life expectancy at birth	115	39.90	○
3rd sub-pillar: SDG Contribution	70	62.36	
4.3.1 SDG 3: Good Health and Well-Being	80	64.22	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	48	83.19	
4.3.4 SDG 7: Affordable and Clean Energy	119	44.36	○
4.3.5 SDG 11: Sustainable Cities and Communities	80	57.67	

NOTE: ● a strength and ○ a weakness.

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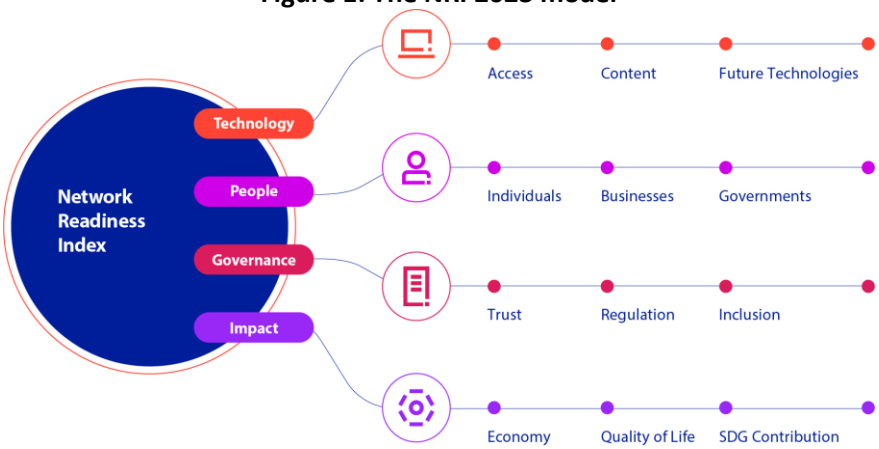
Spain

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

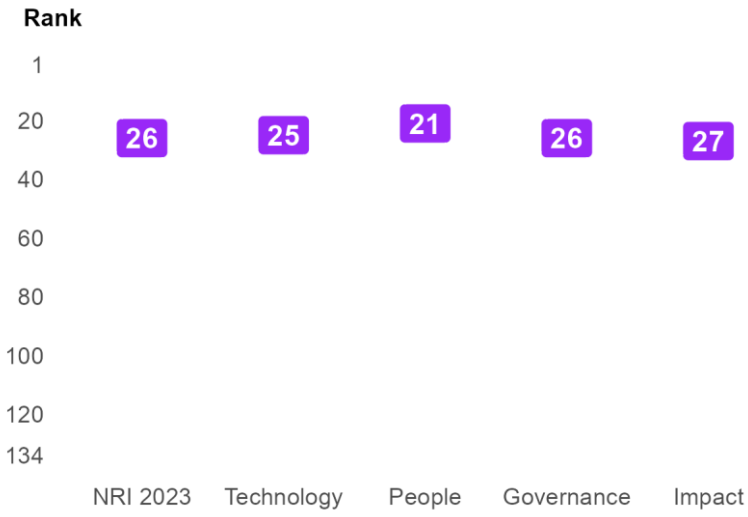
Figure 1: The NRI 2023 model



Global NRI position of Spain

Spain ranks 26th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Spain global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Spain relate to Access, SDG Contribution and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Trust, Economy and Quality of Life sub-pillars.

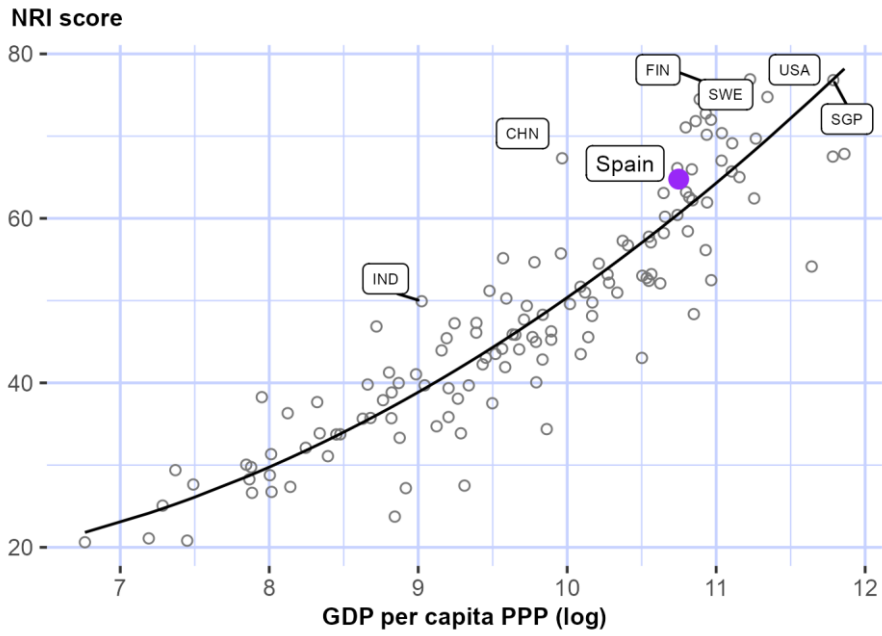
Table 1: Spain rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	12	Governments	27
SDG Contribution	12	Content	28
Inclusion	16	Businesses	31
Individuals	18	Trust	32
Future Technologies	25	Economy	32
Regulation	25	Quality of Life	37

NRI score and income

Figure 3 shows the position of Spain in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Spain is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Spain belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Spain is ranked 25th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Access, Individuals, Regulation, Inclusion and SDG Contribution.

Europe

Spain is ranked 17th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in nine of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and SDG Contribution.

Figure 4: Performance of Spain against its income group and region, overall and by pillar

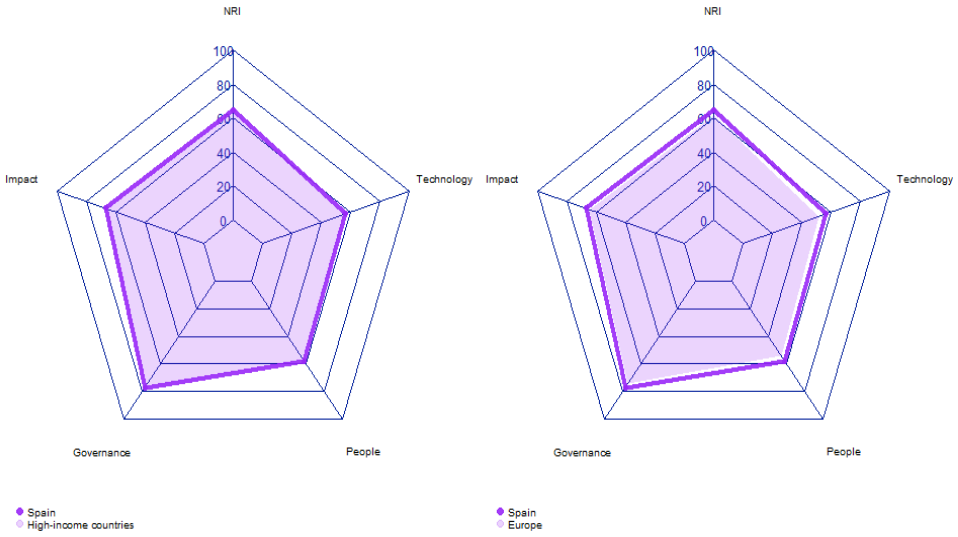


Table 2: Spain scores vs. averages of its income group and region, overall and by pillar

Dimension	Spain	High-income countries	Europe
NRI	64.77	64.07	61.25
Technology	56.34	55.76	51.90
People	58.31	56.99	54.16
Governance	77.39	76.81	74.33
Impact	67.05	66.73	64.61

Strongest and weakest indicators

The indicators where Spain performs particularly well include 1.1.6 Internet access in schools, 3.2.4 E-commerce legislation, and 4.3.3 SDG 5: Women's economic opportunity (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 3.2.2 ICT regulatory environment, and 2.3.3 Government promotion of investment in emerging technologies.

Table 3: Highlight of Strengths and Opportunities for Spain

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	2.1.2 ICT skills in the education system	53
3.2.4 E-commerce legislation	1	2.3.3 Government promotion of investment in emerging technologies	63
4.3.3 SDG 5: Women's economic opportunity	1	3.2.2 ICT regulatory environment	70
3.3.2 Socioeconomic gap in use of digital payments	3	4.2.2 Freedom to make life choices	80
3.1.2 Cybersecurity	5		
2.1.4 Tertiary enrollment	6		
4.2.4 Healthy life expectancy at birth	7		
2.2.4 Annual investment in telecommunication services	11		
3.3.5 Rural gap in use of digital payments	11		
1.3.4 Computer software spending	12		
2.1.3 Use of virtual social networks	12		
4.3.1 SDG 3: Good Health and Well-Being	13		
4.3.5 SDG 11: Sustainable Cities and Communities	13		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Spain

Network Readiness Index Rank: 26 (out of 134) Score: 64.77

Pillar/sub-pillar	Rank	Score
A. Technology pillar	25	56.34
1st sub-pillar: Access	12	79.04
2nd sub-pillar: Content	28	40.76
3rd sub-pillar: Future Technologies	25	49.23
B. People pillar	21	58.31
1st sub-pillar: Individuals	18	59.00
2nd sub-pillar: Businesses	31	60.60
3rd sub-pillar: Governments	27	55.32

Pillar/sub-pillar	Rank	Score
C. Governance pillar	26	77.39
1st sub-pillar: Trust	32	70.23
2nd sub-pillar: Regulation	25	80.27
3rd sub-pillar: Inclusion	16	81.68
D. Impact pillar	27	67.05
1st sub-pillar: Economy	32	39.11
2nd sub-pillar: Quality of Life	37	76.43
3rd sub-pillar: SDG Contribution	12	85.61

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	25	56.34	
1st sub-pillar: Access	12	79.04	
1.1.1 Mobile tariffs	42	73.18	
1.1.2 Handset prices	26	71.34	
1.1.3 FTTH/building Internet subscriptions	15	56.58	
1.1.4 Population covered by at least a 3G mobile network	40	99.93	
1.1.5 International Internet bandwidth	57	73.17	
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	28	40.76	
1.2.1 GitHub commits	32	33.74	
1.2.2 Internet domain registrations	30	24.38	
1.2.3 Mobile apps development	32	73.78	
1.2.4 AI scientific publications	15	31.15	
3rd sub-pillar: Future Technologies	25	49.23	
1.3.1 Adoption of emerging technologies	29	68.80	
1.3.2 Investment in emerging technologies	56	43.00	

Indicator	Rank	Score	
C. Governance pillar	26	77.39	
1st sub-pillar: Trust	32	70.23	
3.1.1 Secure Internet servers	32	79.63	
3.1.2 Cybersecurity	5	98.49	●
3.1.3 Online access to financial account	49	36.31	
3.1.4 Internet shopping	26	66.48	
2nd sub-pillar: Regulation	25	80.27	
3.2.1 Regulatory quality	39	67.92	
3.2.2 ICT regulatory environment	70	83.53	○
3.2.3 Regulation of emerging technologies	30	65.45	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	21	84.42	
3rd sub-pillar: Inclusion	16	81.68	
3.3.1 E-Participation	25	74.42	
3.3.2 Socioeconomic gap in use of digital payments	3	99.47	●
3.3.3 Availability of local online content	22	85.58	

Indicator	Rank	Score	
1.3.3 Robot density	19	23.04	
1.3.4 Computer software spending	12	62.09	●
B. People pillar	21	58.31	
1st sub-pillar: Individuals	18	59.00	
2.1.1 Mobile broadband internet traffic within the country	22	35.58	
2.1.2 ICT skills in the education system	53	54.77	○
2.1.3 Use of virtual social networks	12	80.55	●
2.1.4 Tertiary enrollment	6	62.94	●
2.1.5 Adult literacy rate	25	98.08	
2.1.6 AI talent concentration	22	22.10	
2nd sub-pillar: Businesses	31	60.60	
2.2.1 Firms with website	25	77.72	
2.2.2 GERD financed by business enterprise	33	60.84	
2.2.3 Knowledge intensive employment	38	53.70	
2.2.4 Annual investment in telecommunication services	11	90.17	●
2.2.5 GERD performed by business enterprise	30	20.58	
3rd sub-pillar: Governments	27	55.32	
2.3.1 Government online services	25	84.07	
2.3.2 Publication and use of open data	11	73.53	
2.3.3 Government promotion of investment in emerging tech	63	38.10	○
2.3.4 R&D expenditure by governments and higher education	30	25.59	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	26	71.55	
3.3.5 Rural gap in use of digital payments	11	77.36	●
D. Impact pillar	27	67.05	
1st sub-pillar: Economy	32	39.11	
4.1.1 High-tech and medium-high-tech manufacturing	31	45.91	
4.1.2 High-tech exports	53	16.79	
4.1.3 PCT patent applications	28	21.66	
4.1.4 Domestic market size	16	74.69	
4.1.5 Prevalence of gig economy	48	51.16	
4.1.6 ICT services exports	43	24.48	
2nd sub-pillar: Quality of Life	37	76.43	
4.2.1 Happiness	37	74.11	
4.2.2 Freedom to make life choices	80	67.71	○
4.2.3 Income inequality	48	70.60	
4.2.4 Healthy life expectancy at birth	7	93.28	●
3rd sub-pillar: SDG Contribution	12	85.61	
4.3.1 SDG 3: Good Health and Well-Being	13	93.79	●
4.3.2 SDG 4: Quality Education	29	60.51	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	25	79.99	
4.3.5 SDG 11: Sustainable Cities and Communities	13	93.74	●

NOTE: ● a strength and ○ a weakness.

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Sri Lanka

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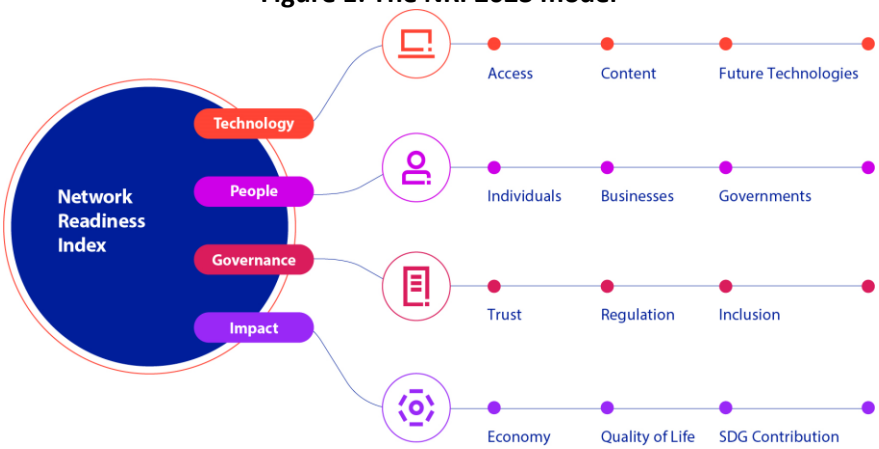
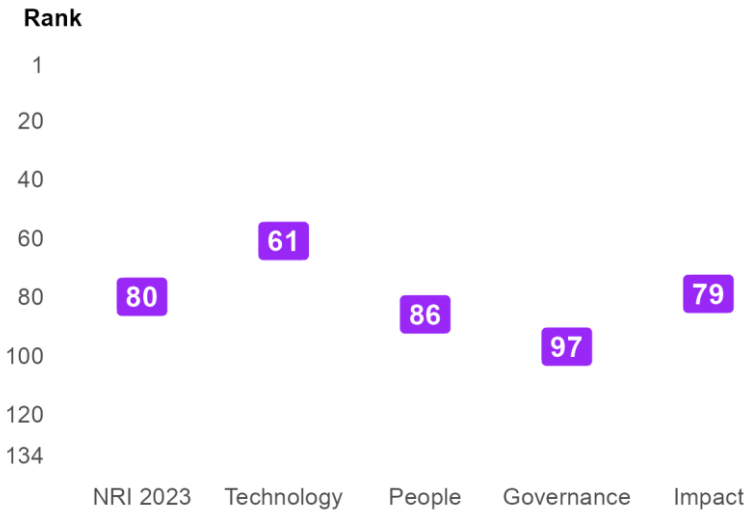
Figure 1: The NRI 2023 model



Global NRI position of Sri Lanka

Sri Lanka ranks 80th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Sri Lanka global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Sri Lanka relate to Future Technologies, Economy and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, Trust and Regulation sub-pillars.

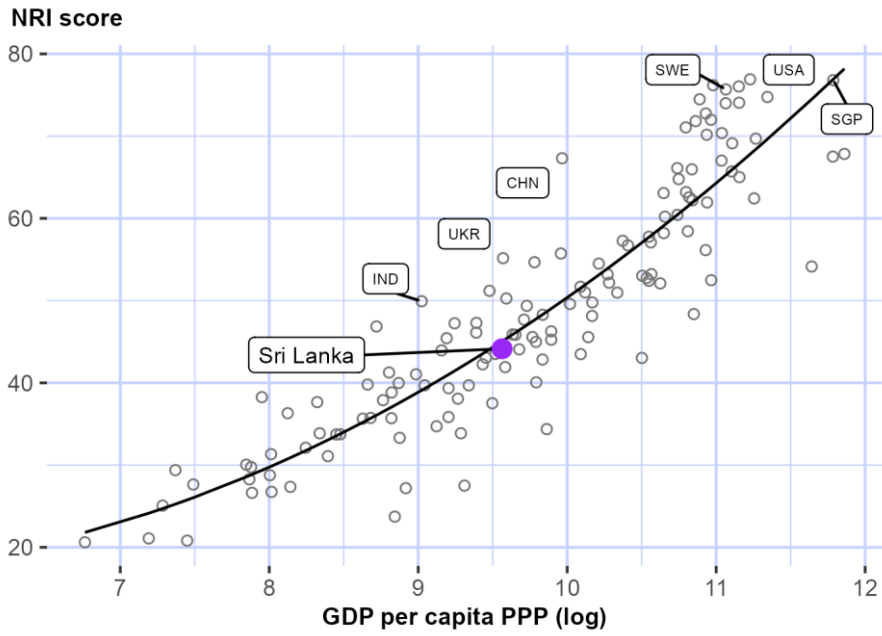
Table 1: Sri Lanka rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	28	Inclusion	85
Economy	64	Access	86
SDG Contribution	68	Quality of Life	94
Content	81	Individuals	95
Businesses	81	Trust	97
Governments	82	Regulation	106

NRI score and income

Figure 3 shows the position of Sri Lanka in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Sri Lanka is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Sri Lanka belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Sri Lanka is ranked 8th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Asia & Pacific

Sri Lanka is ranked 14th within Asia & Pacific (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Asia & Pacific in one of the twelve sub-pillars: Future Technologies.

Figure 4: Performance of Sri Lanka against its income group and region, overall and by pillar

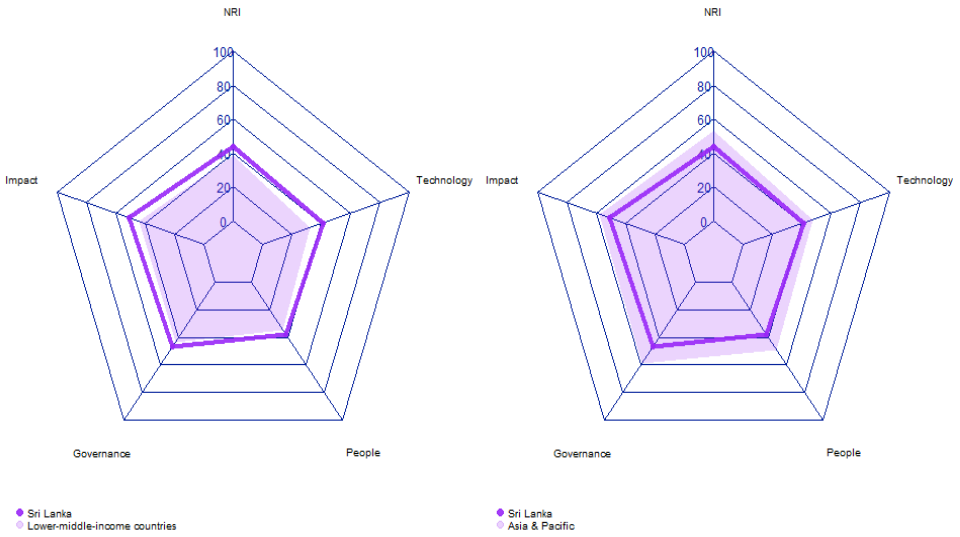


Table 2: Sri Lanka scores vs. averages of its income group and region, overall and by pillar

Dimension	Sri Lanka	Lower-middle-income countries	Asia & Pacific
NRI	44.14	38.41	53.28
Technology	41.41	32.12	47.34
People	37.79	34.38	48.95
Governance	46.71	43.27	59.22
Impact	50.66	43.89	57.62

Strongest and weakest indicators

The indicators where Sri Lanka performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 4.1.6 ICT services exports, and 1.3.4 Computer software spending (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.2.1 Happiness, and 3.1.3 Online access to financial account.

Table 3: Highlight of Strengths and Opportunities for Sri Lanka

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	7	3.2.4 E-commerce legislation	87
4.1.6 ICT services exports	13	2.3.4 R&D expenditure by governments and higher education	102
1.3.4 Computer software spending	20	3.1.3 Online access to financial account	111
1.1.1 Mobile tariffs	34	4.2.1 Happiness	114
2.3.3 Government promotion of investment in emerging technologies	41	3.2.2 ICT regulatory environment	125
2.1.1 Mobile broadband internet traffic within the country	42		
1.3.1 Adoption of emerging technologies	45		
4.1.5 Prevalence of gig economy	45		
1.2.1 GitHub commits	50		
4.2.4 Healthy life expectancy at birth	52		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Sri Lanka

Network Readiness Index Rank: 80 (out of 134) Score: 44.14

Pillar/sub-pillar	Rank	Score
A. Technology pillar	61	41.41
1st sub-pillar: Access	86	56.34
2nd sub-pillar: Content	81	19.23
3rd sub-pillar: Future Technologies	28	48.65
B. People pillar	86	37.79
1st sub-pillar: Individuals	95	38.82
2nd sub-pillar: Businesses	81	40.26
3rd sub-pillar: Governments	82	34.28

Pillar/sub-pillar	Rank	Score
C. Governance pillar	97	46.71
1st sub-pillar: Trust	97	31.83
2nd sub-pillar: Regulation	106	53.59
3rd sub-pillar: Inclusion	85	54.72
D. Impact pillar	79	50.66
1st sub-pillar: Economy	64	29.33
2nd sub-pillar: Quality of Life	94	59.65
3rd sub-pillar: SDG Contribution	68	63.01

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	61	41.41	
1st sub-pillar: Access	86	56.34	
1.1.1 Mobile tariffs	34	77.25	•
1.1.2 Handset prices	78	41.33	
1.1.3 FTTH/building Internet subscriptions	56	31.33	
1.1.4 Population covered by at least a 3G mobile network	82	99.00	
1.1.5 International Internet bandwidth	69	70.58	
1.1.6 Internet access in schools	69	18.57	
2nd sub-pillar: Content	81	19.23	
1.2.1 GitHub commits	50	12.21	•
1.2.2 Internet domain registrations	99	0.96	
1.2.3 Mobile apps development	93	57.27	
1.2.4 AI scientific publications	63	6.48	
3rd sub-pillar: Future Technologies	28	48.65	
1.3.1 Adoption of emerging technologies	45	56.01	•
1.3.2 Investment in emerging technologies	71	38.25	

Indicator	Rank	Score	
C. Governance pillar	97	46.71	
1st sub-pillar: Trust	97	31.83	
3.1.1 Secure Internet servers	79	47.48	
3.1.2 Cybersecurity	89	57.92	
3.1.3 Online access to financial account	111	9.76	○
3.1.4 Internet shopping	86	12.17	
2nd sub-pillar: Regulation	106	53.59	
3.2.1 Regulatory quality	90	41.24	
3.2.2 ICT regulatory environment	125	55.65	○
3.2.3 Regulation of emerging technologies	71	42.60	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	73	61.79	
3rd sub-pillar: Inclusion	85	54.72	
3.3.1 E-Participation	95	33.73	
3.3.2 Socioeconomic gap in use of digital payments	62	77.51	
3.3.3 Availability of local online content	93	47.12	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	20	51.68	●
B. People pillar	86	37.79	
1st sub-pillar: Individuals	95	38.82	
2.1.1 Mobile broadband internet traffic within the country	42	17.67	●
2.1.2 ICT skills in the education system	73	44.13	
2.1.3 Use of virtual social networks	101	29.52	
2.1.4 Tertiary enrollment	96	13.13	
2.1.5 Adult literacy rate	59	89.66	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	81	40.26	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	41	49.81	
2.2.3 Knowledge intensive employment	67	30.93	
2.2.4 Annual investment in telecommunication services	57	79.01	
2.2.5 GERD performed by business enterprise	70	1.29	
3rd sub-pillar: Governments	82	34.28	
2.3.1 Government online services	88	51.86	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	41	49.02	●
2.3.4 R&D expenditure by governments and higher education	102	1.97	○

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	93	49.14	
3.3.5 Rural gap in use of digital payments	60	66.10	
D. Impact pillar	79	50.66	
1st sub-pillar: Economy	64	29.33	
4.1.1 High-tech and medium-high-tech manufacturing	93	7.95	
4.1.2 High-tech exports	112	1.65	
4.1.3 PCT patent applications	69	2.55	
4.1.4 Domestic market size	58	55.79	
4.1.5 Prevalence of gig economy	45	53.49	●
4.1.6 ICT services exports	13	54.58	●
2nd sub-pillar: Quality of Life	94	59.65	
4.2.1 Happiness	114	32.57	○
4.2.2 Freedom to make life choices	84	66.05	
4.2.3 Income inequality	64	63.57	
4.2.4 Healthy life expectancy at birth	52	76.39	●
3rd sub-pillar: SDG Contribution	68	63.01	
4.3.1 SDG 3: Good Health and Well-Being	83	63.12	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	117	51.33	
4.3.4 SDG 7: Affordable and Clean Energy	7	87.28	●
4.3.5 SDG 11: Sustainable Cities and Communities	90	50.30	

NOTE: ● a strength and ○ a weakness.

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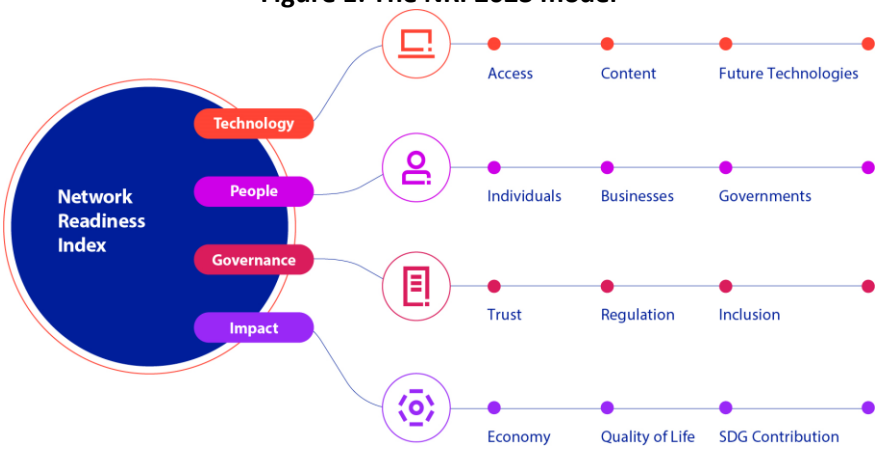
Sweden

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

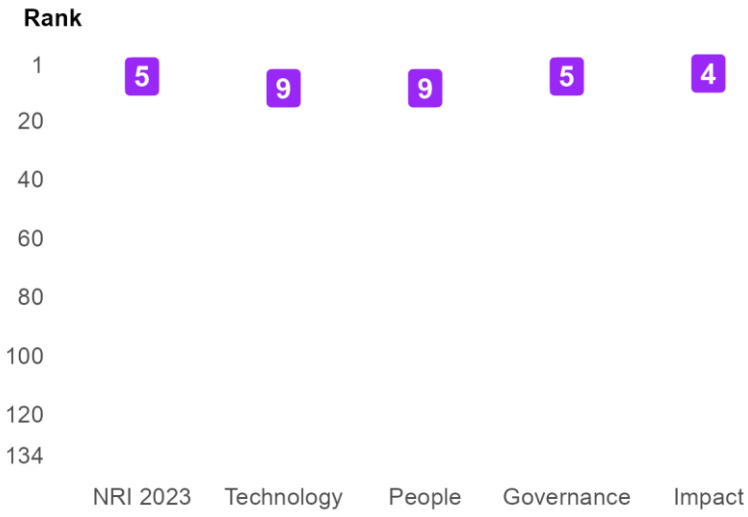
Figure 1: The NRI 2023 model



Global NRI position of Sweden

Sweden ranks 5th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Technology and People.

Figure 2: Sweden global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Sweden relate to Businesses, Future Technologies and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Access and Individuals sub-pillars.

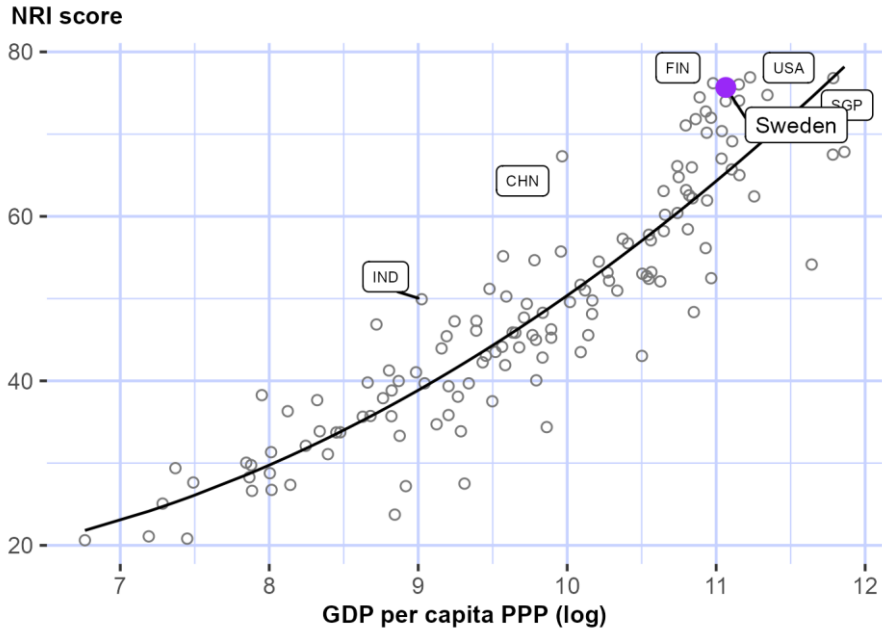
Table 1: Sweden rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	2	Economy	7
Future Technologies	3	Governments	9
Quality of Life	4	Content	11
SDG Contribution	4	Inclusion	11
Trust	5	Access	35
Regulation	6	Individuals	52

NRI score and income

Figure 3 shows the position of Sweden in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Sweden is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Sweden belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Sweden is ranked 5th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

Sweden is ranked 3rd within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Sweden against its income group and region, overall and by pillar

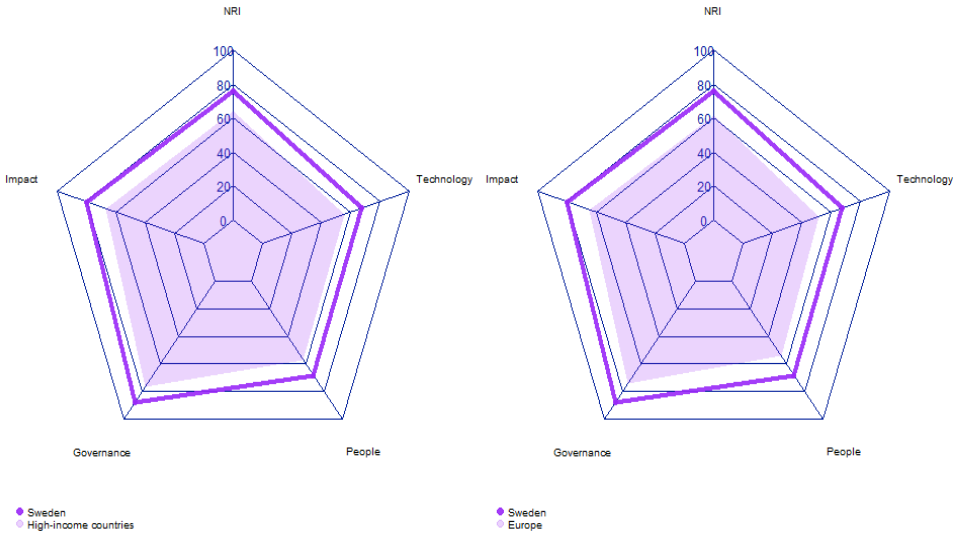


Table 2: Sweden scores vs. averages of its income group and region, overall and by pillar

Dimension	Sweden	High-income countries	Europe
NRI	75.68	64.07	61.25
Technology	67.21	55.76	51.90
People	68.23	56.99	54.16
Governance	87.74	76.81	74.33
Impact	79.52	66.73	64.61

Strongest and weakest indicators

The indicators where Sweden performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 3.2.4 E-commerce legislation, and 3.3.3 Availability of local online content (Table 3). By contrast, the economy's weakest indicators include 1.1.5 International Internet bandwidth, 4.3.4 SDG 7: Affordable and Clean Energy, and 3.2.2 ICT regulatory environment.

Table 3: Highlight of Strengths and Opportunities for Sweden

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	2.1.6 AI talent concentration	21
3.2.4 E-commerce legislation	1	3.2.2 ICT regulatory environment	45
3.3.3 Availability of local online content	1	4.3.4 SDG 7: Affordable and Clean Energy	66
4.3.3 SDG 5: Women's economic opportunity	1	1.1.5 International Internet bandwidth	70
1.3.2 Investment in emerging technologies	3		
2.2.3 Knowledge intensive employment	3		
4.3.1 SDG 3: Good Health and Well-Being	3		
4.3.5 SDG 11: Sustainable Cities and Communities	3		
2.3.4 R&D expenditure by governments and higher education	4		
3.1.3 Online access to financial account	4		
3.1.4 Internet shopping	4		
4.1.3 PCT patent applications	4		
4.2.1 Happiness	5		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Sweden

Network Readiness Index — Rank: 5 (out of 134) — Score: 75.68

Pillar/sub-pillar	Rank	Score
A. Technology pillar	9	67.21
1st sub-pillar: Access	35	73.75
2nd sub-pillar: Content	11	55.42
3rd sub-pillar: Future Technologies	3	72.45
B. People pillar	9	68.23
1st sub-pillar: Individuals	52	50.68
2nd sub-pillar: Businesses	2	81.23
3rd sub-pillar: Governments	9	72.80
C. Governance pillar	5	87.74
1st sub-pillar: Trust	5	90.26
2nd sub-pillar: Regulation	6	89.29
3rd sub-pillar: Inclusion	11	83.68
D. Impact pillar	4	79.52
1st sub-pillar: Economy	7	59.79
2nd sub-pillar: Quality of Life	4	91.71
3rd sub-pillar: SDG Contribution	4	87.07

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	9	67.21	
1st sub-pillar: Access	35	73.75	
1.1.1 Mobile tariffs	13	88.33	
1.1.2 Handset prices	31	70.26	
1.1.3 FTTH/building Internet subscriptions	34	39.67	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	70	70.50	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	11	55.42	
1.2.1 GitHub commits	12	70.22	
1.2.2 Internet domain registrations	14	56.82	
1.2.3 Mobile apps development	10	80.43	
1.2.4 AI scientific publications	36	14.23	
3rd sub-pillar: Future Technologies	3	72.45	
1.3.1 Adoption of emerging technologies	5	96.31	
1.3.2 Investment in emerging technologies	3	92.00	●
1.3.3 Robot density	6	46.92	

Indicator	Rank	Score	
C. Governance pillar	5	87.74	
1st sub-pillar: Trust	5	90.26	
3.1.1 Secure Internet servers	24	82.96	
3.1.2 Cybersecurity	33	94.45	
3.1.3 Online access to financial account	4	93.08	●
3.1.4 Internet shopping	4	90.56	●
2nd sub-pillar: Regulation	6	89.29	
3.2.1 Regulatory quality	8	89.19	
3.2.2 ICT regulatory environment	45	87.06	○
3.2.3 Regulation of emerging technologies	15	79.48	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	9	90.74	
3rd sub-pillar: Inclusion	11	83.68	
3.3.1 E-Participation	32	72.10	
3.3.2 Socioeconomic gap in use of digital payments	16	96.66	
3.3.3 Availability of local online content	1	100.00	●
3.3.4 Gender gap in Internet use	18	73.65	

Indicator	Rank	Score	
1.3.4 Computer software spending	19	54.56	
B. People pillar	9	68.23	
1st sub-pillar: Individuals	52	50.68	
2.1.1 Mobile broadband internet traffic within the country	35	21.93	
2.1.2 ICT skills in the education system	17	75.57	
2.1.3 Use of virtual social networks	23	77.71	
2.1.4 Tertiary enrollment	17	55.21	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	21	22.96	○
2nd sub-pillar: Businesses	2	81.23	
2.2.1 Firms with website	5	93.91	
2.2.2 GERD financed by business enterprise	13	77.21	
2.2.3 Knowledge intensive employment	3	88.61	●
2.2.4 Annual investment in telecommunication services	31	84.68	
2.2.5 GERD performed by business enterprise	6	61.73	
3rd sub-pillar: Governments	9	72.80	
2.3.1 Government online services	13	88.97	
2.3.2 Publication and use of open data	14	70.59	
2.3.3 Government promotion of investment in emerging tech	17	71.42	
2.3.4 R&D expenditure by governments and higher education	4	60.21	●

Indicator	Rank	Score	
3.3.5 Rural gap in use of digital payments	20	75.98	
D. Impact pillar	4	79.52	
1st sub-pillar: Economy	7	59.79	
4.1.1 High-tech and medium-high-tech manufacturing	14	59.44	
4.1.2 High-tech exports	37	25.02	
4.1.3 PCT patent applications	4	90.47	●
4.1.4 Domestic market size	38	63.26	
4.1.5 Prevalence of gig economy	18	68.90	
4.1.6 ICT services exports	15	51.62	
2nd sub-pillar: Quality of Life	4	91.71	
4.2.1 Happiness	5	94.46	●
4.2.2 Freedom to make life choices	7	94.02	
4.2.3 Income inequality	16	85.68	
4.2.4 Healthy life expectancy at birth	11	92.69	
3rd sub-pillar: SDG Contribution	4	87.07	
4.3.1 SDG 3: Good Health and Well-Being	3	96.42	●
4.3.2 SDG 4: Quality Education	14	68.77	
4.3.3 SDG 5: Women's economic opportunity	1	100.00	●
4.3.4 SDG 7: Affordable and Clean Energy	66	72.18	○
4.3.5 SDG 11: Sustainable Cities and Communities	3	97.98	●

NOTE: ● a strength and ○ a weakness.

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Switzerland

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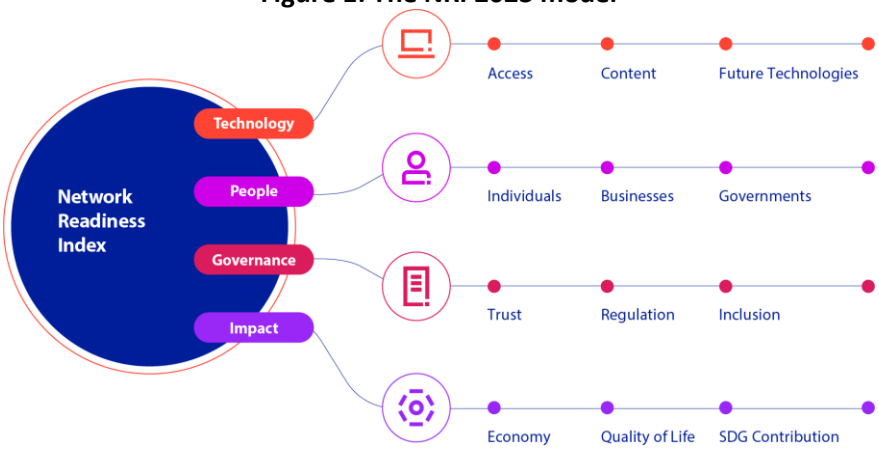
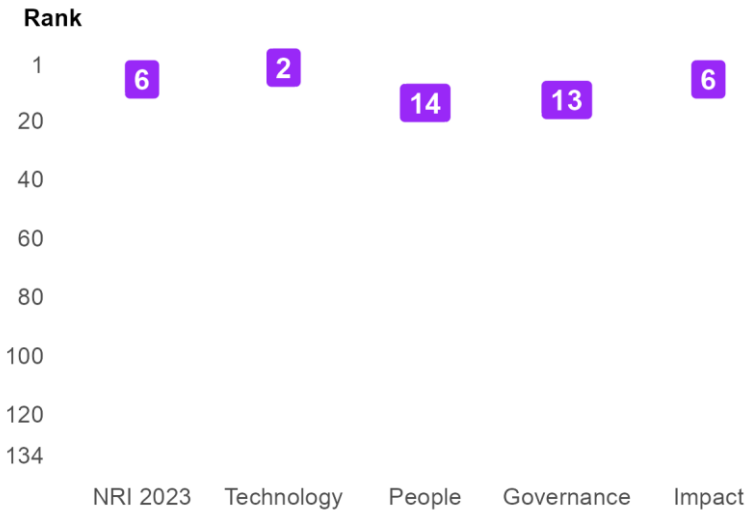
Figure 1: The NRI 2023 model



Global NRI position of Switzerland

Switzerland ranks 6th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Switzerland global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Switzerland relate to Content, Regulation and Future Technologies, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Trust and Individuals sub-pillars.

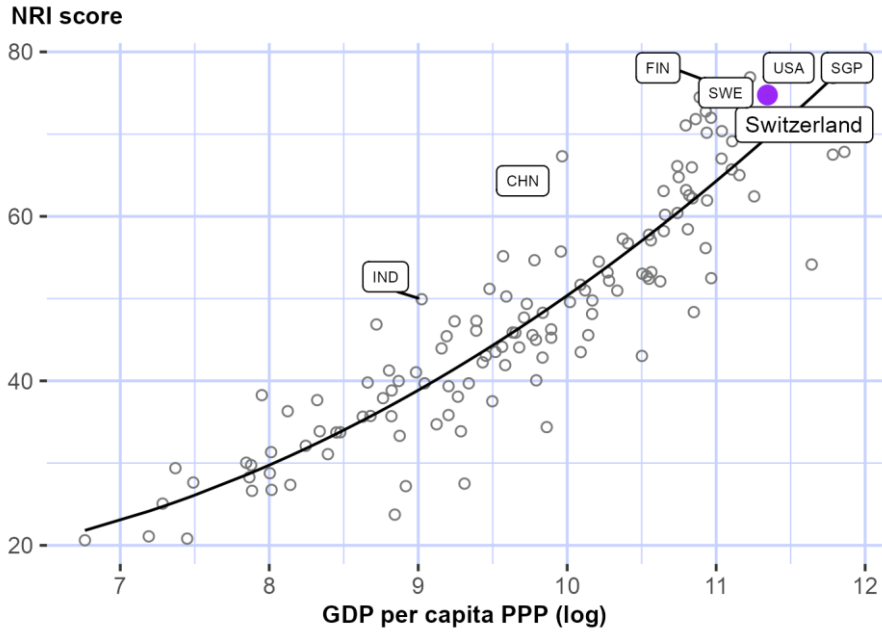
Table 1: Switzerland rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Content	3	SDG Contribution	9
Regulation	4	Inclusion	14
Future Technologies	5	Quality of Life	16
Access	6	Governments	20
Businesses	7	Trust	25
Economy	9	Individuals	26

NRI score and income

Figure 3 shows the position of Switzerland in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Switzerland is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Switzerland belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

Switzerland is ranked 6th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of high-income countries in all of them.

Europe

Switzerland is ranked 4th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of Switzerland against its income group and region, overall and by pillar

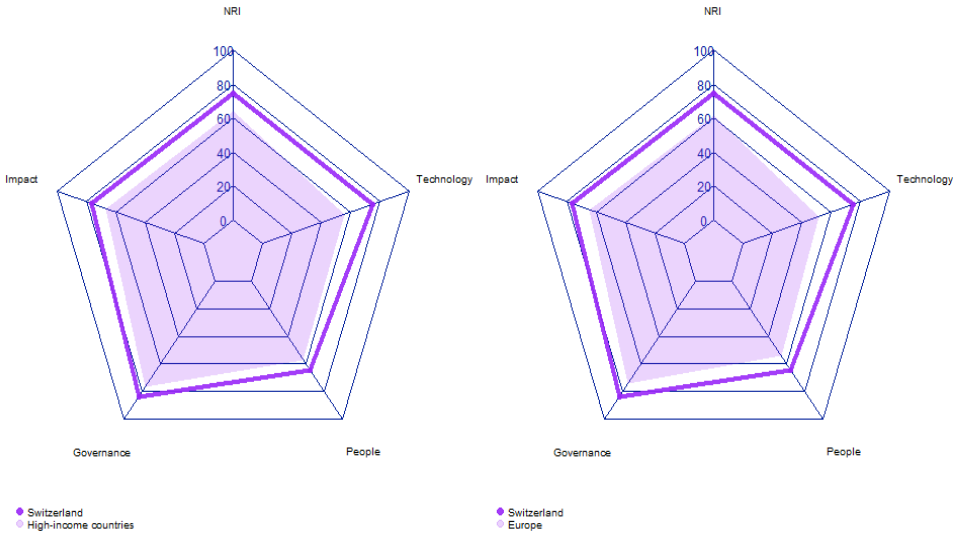


Table 2: Switzerland scores vs. averages of its income group and region, overall and by pillar

Dimension	Switzerland	High-income countries	Europe
NRI	74.76	64.07	61.25
Technology	74.90	55.76	51.90
People	64.26	56.99	54.16
Governance	83.75	76.81	74.33
Impact	76.12	66.73	64.61

Strongest and weakest indicators

The indicators where Switzerland performs particularly well include 1.1.1 Mobile tariffs, 1.1.4 Population covered by at least a 3G mobile network, and 1.1.6 Internet access in schools (Table 3). By contrast, the economy's weakest indicators include 1.1.3 FTTH/building Internet subscriptions, 1.1.5 International Internet bandwidth, and 4.2.2 Freedom to make life choices.

Table 3: Highlight of Strengths and Opportunities for Switzerland

Strongest indicators	Rank	Weakest indicators	Rank
1.1.1 Mobile tariffs	1	3.3.4 Gender gap in Internet use	50
1.1.4 Population covered by at least a 3G mobile network	1	4.2.2 Freedom to make life choices	54
1.1.6 Internet access in schools	1	1.1.3 FTTH/building Internet subscriptions	70
1.2.1 GitHub commits	1	1.1.5 International Internet bandwidth	70
3.2.4 E-commerce legislation	1		
3.3.2 Socioeconomic gap in use of digital payments	1		
2.1.2 ICT skills in the education system	2		
4.1.1 High-tech and medium-high-tech manufacturing	2		
3.2.5 Privacy protection by law content	3		
4.1.3 PCT patent applications	3		
1.2.2 Internet domain registrations	4		
1.3.2 Investment in emerging technologies	4		
4.2.4 Healthy life expectancy at birth	4		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Switzerland

Network Readiness Index — Rank: 6 (out of 134) — Score: 74.76

Pillar/sub-pillar	Rank	Score
A. Technology pillar	2	74.90
1st sub-pillar: Access	6	81.24
2nd sub-pillar: Content	3	71.90
3rd sub-pillar: Future Technologies	5	71.55
B. People pillar	14	64.26
1st sub-pillar: Individuals	26	56.05
2nd sub-pillar: Businesses	7	75.16
3rd sub-pillar: Governments	20	61.59

Pillar/sub-pillar	Rank	Score
C. Governance pillar	13	83.75
1st sub-pillar: Trust	25	76.10
2nd sub-pillar: Regulation	4	93.16
3rd sub-pillar: Inclusion	14	81.97
D. Impact pillar	6	76.12
1st sub-pillar: Economy	9	58.94
2nd sub-pillar: Quality of Life	16	83.25
3rd sub-pillar: SDG Contribution	9	86.16

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	2	74.90	
1st sub-pillar: Access	6	81.24	
1.1.1 Mobile tariffs	1	100.00	●
1.1.2 Handset prices	7	90.46	
1.1.3 FTTH/building Internet subscriptions	70	26.46	○
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●
1.1.5 International Internet bandwidth	70	70.50	○
1.1.6 Internet access in schools	1	100.00	●
2nd sub-pillar: Content	3	71.90	
1.2.1 GitHub commits	1	100.00	●
1.2.2 Internet domain registrations	4	99.77	●
1.2.3 Mobile apps development	18	76.18	
1.2.4 AI scientific publications	42	11.65	
3rd sub-pillar: Future Technologies	5	71.55	
1.3.1 Adoption of emerging technologies	6	93.09	
1.3.2 Investment in emerging technologies	4	89.25	●

Indicator	Rank	Score	
C. Governance pillar	13	83.75	
1st sub-pillar: Trust	25	76.10	
3.1.1 Secure Internet servers	5	93.32	
3.1.2 Cybersecurity	50	86.74	
3.1.3 Online access to financial account	19	66.23	
3.1.4 Internet shopping	38	58.12	
2nd sub-pillar: Regulation	4	93.16	
3.2.1 Regulatory quality	9	88.75	
3.2.2 ICT regulatory environment	21	93.53	
3.2.3 Regulation of emerging technologies	5	89.61	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	3	93.93	●
3rd sub-pillar: Inclusion	14	81.97	
3.3.1 E-Participation	41	69.76	
3.3.2 Socioeconomic gap in use of digital payments	1	100.00	●
3.3.3 Availability of local online content	6	95.43	

Indicator	Rank	Score	
1.3.3 Robot density	8	40.53	
1.3.4 Computer software spending	9	63.34	
B. People pillar	14	64.26	
1st sub-pillar: Individuals	26	56.05	
2.1.1 Mobile broadband internet traffic within the country	41	18.41	
2.1.2 ICT skills in the education system	2	96.97	●
2.1.3 Use of virtual social networks	21	78.59	
2.1.4 Tertiary enrollment	46	42.26	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	6	43.99	
2nd sub-pillar: Businesses	7	75.16	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	7	80.00	
2.2.3 Knowledge intensive employment	10	78.49	
2.2.4 Annual investment in telecommunication services	17	86.88	
2.2.5 GERD performed by business enterprise	8	55.26	
3rd sub-pillar: Governments	20	61.59	
2.3.1 Government online services	49	74.33	
2.3.2 Publication and use of open data	23	57.35	
2.3.3 Government promotion of investment in emerging tech	28	57.30	
2.3.4 R&D expenditure by governments and higher education	7	57.37	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	50	69.15	○
3.3.5 Rural gap in use of digital payments	23	75.53	
D. Impact pillar	6	76.12	
1st sub-pillar: Economy	9	58.94	
4.1.1 High-tech and medium-high-tech manufacturing	2	85.30	●
4.1.2 High-tech exports	36	25.58	
4.1.3 PCT patent applications	3	94.85	●
4.1.4 Domestic market size	34	63.99	
4.1.5 Prevalence of gig economy	28	62.79	
4.1.6 ICT services exports	49	21.15	
2nd sub-pillar: Quality of Life	16	83.25	
4.2.1 Happiness	16	84.28	
4.2.2 Freedom to make life choices	54	78.86	○
4.2.3 Income inequality	39	75.13	
4.2.4 Healthy life expectancy at birth	4	94.74	●
3rd sub-pillar: SDG Contribution	9	86.16	
4.3.1 SDG 3: Good Health and Well-Being	5	96.38	
4.3.2 SDG 4: Quality Education	21	66.99	
4.3.3 SDG 5: Women's economic opportunity	48	83.19	
4.3.4 SDG 7: Affordable and Clean Energy	6	87.64	
4.3.5 SDG 11: Sustainable Cities and Communities	6	96.62	

NOTE: ● a strength and ○ a weakness.

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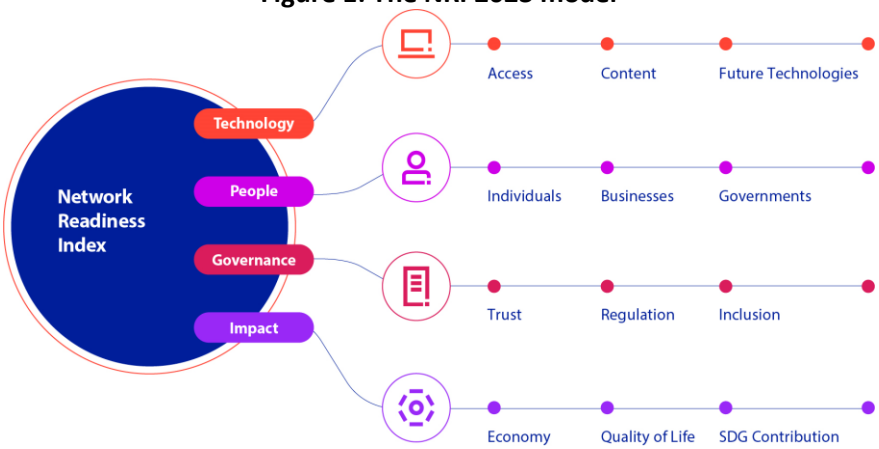
Tajikistan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

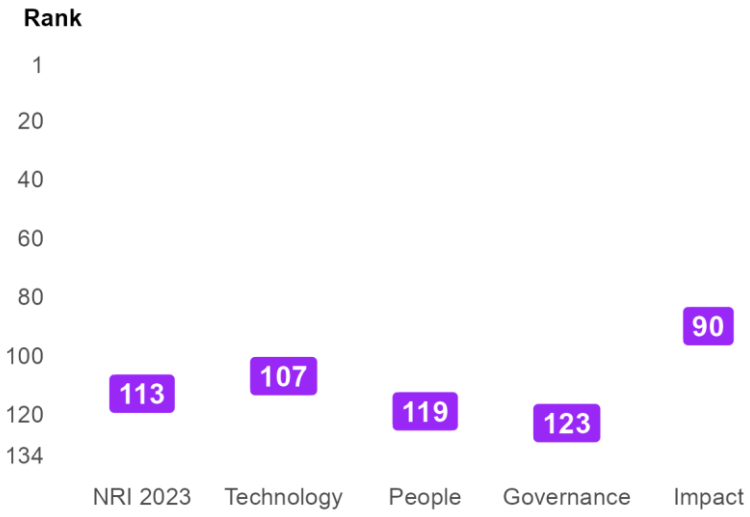
Figure 1: The NRI 2023 model



Global NRI position of Tajikistan

Tajikistan ranks 113th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Tajikistan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tajikistan relate to SDG Contribution, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Businesses and Regulation sub-pillars.

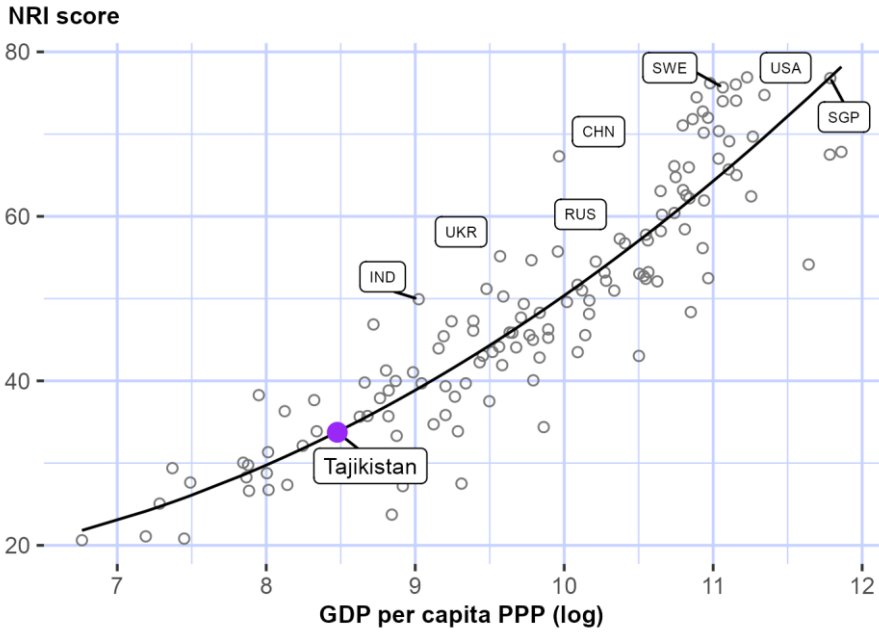
Table 1: Tajikistan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	65	Governments	115
Individuals	72	Trust	119
Quality of Life	77	Access	123
Inclusion	78	Economy	130
Future Technologies	95	Businesses	133
Content	97	Regulation	133

NRI score and income

Figure 3 shows the position of Tajikistan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tajikistan is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Tajikistan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Lower-middle-income countries

Tajikistan is ranked 30th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms lower-middle-income countries in five of the twelve sub-pillars: Content, Individuals, Inclusion, Quality of Life and SDG Contribution.

CIS

Tajikistan is ranked 7th within CIS (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in CIS in one of the twelve sub-pillars: SDG Contribution.

Figure 4: Performance of Tajikistan against its income group and region, overall and by pillar

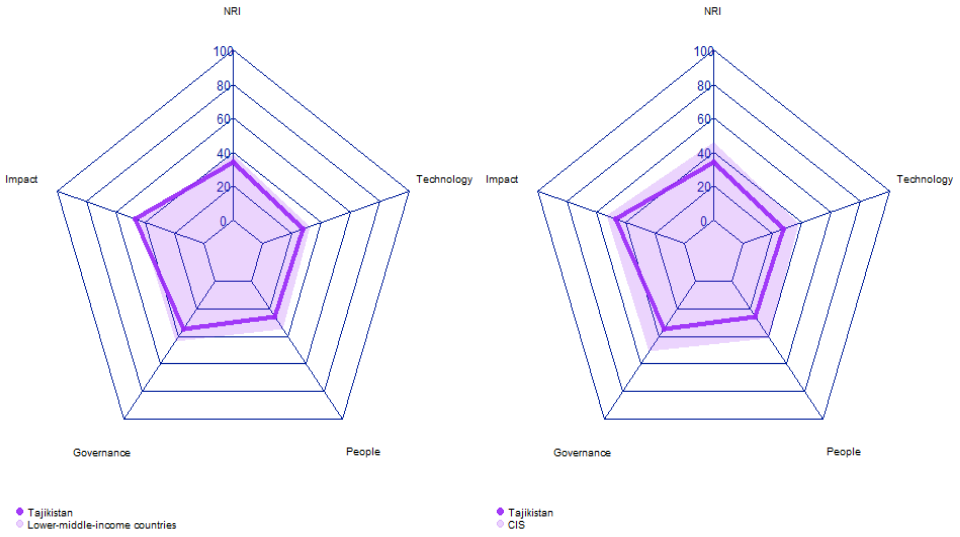


Table 2: Tajikistan scores vs. averages of its income group and region, overall and by pillar

Dimension	Tajikistan	Lower-middle-income countries	CIS
NRI	33.75	38.41	45.81
Technology	27.45	32.12	38.11
People	25.89	34.38	41.35
Governance	34.64	43.27	51.08
Impact	47.00	43.89	52.69

Strongest and weakest indicators

The indicators where Tajikistan performs particularly well include 2.1.1 Mobile broadband internet traffic within the country, 2.1.5 Adult literacy rate, and 3.3.2 Socioeconomic gap in use of digital payments (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 1.1.5 International Internet bandwidth, and 1.1.2 Handset prices.

Table 3: Highlight of Strengths and Opportunities for Tajikistan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.1 Mobile broadband internet traffic within the country	5	4.1.3 PCT patent applications	99
2.1.5 Adult literacy rate	10	4.1.1 High-tech and medium-high-tech manufacturing	107
3.3.2 Socioeconomic gap in use of digital payments	27	1.1.2 Handset prices	132
4.2.3 Income inequality	43	1.1.5 International Internet bandwidth	133
1.3.2 Investment in emerging technologies	58	3.2.2 ICT regulatory environment	134
4.2.2 Freedom to make life choices	60		
4.3.5 SDG 11: Sustainable Cities and Communities	72		
1.2.4 AI scientific publications	73		
2.3.3 Government promotion of investment in emerging technologies	75		
3.3.3 Availability of local online content	79		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Tajikistan

Network Readiness Index Rank: 113 (out of 134) Score: 33.75

Pillar/sub-pillar	Rank	Score
A. Technology pillar	107	27.45
1st sub-pillar: Access	123	38.96
2nd sub-pillar: Content	97	17.19
3rd sub-pillar: Future Technologies	95	26.20
B. People pillar	119	25.89
1st sub-pillar: Individuals	72	46.48
2nd sub-pillar: Businesses	133	11.82
3rd sub-pillar: Governments	115	19.38

Pillar/sub-pillar	Rank	Score
C. Governance pillar	123	34.64
1st sub-pillar: Trust	119	17.96
2nd sub-pillar: Regulation	133	29.14
3rd sub-pillar: Inclusion	78	56.83
D. Impact pillar	90	47.00
1st sub-pillar: Economy	130	10.59
2nd sub-pillar: Quality of Life	77	65.77
3rd sub-pillar: SDG Contribution	65	64.63

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	107	27.45	
1st sub-pillar: Access	123	38.96	
1.1.1 Mobile tariffs	122	19.54	
1.1.2 Handset prices	132	0.00	○
1.1.3 FTTH/building Internet subscriptions	NA	NA	
1.1.4 Population covered by at least a 3G mobile network	106	96.48	
1.1.5 International Internet bandwidth	133	39.83	○
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	97	17.19	
1.2.1 GitHub commits	125	0.37	
1.2.2 Internet domain registrations	117	0.25	
1.2.3 Mobile apps development	75	63.69	
1.2.4 AI scientific publications	73	4.47	●
3rd sub-pillar: Future Technologies	95	26.20	
1.3.1 Adoption of emerging technologies	101	31.62	
1.3.2 Investment in emerging technologies	58	41.75	●

Indicator	Rank	Score	
C. Governance pillar	123	34.64	
1st sub-pillar: Trust	119	17.96	
3.1.1 Secure Internet servers	104	36.08	
3.1.2 Cybersecurity	122	15.64	
3.1.3 Online access to financial account	81	19.40	
3.1.4 Internet shopping	126	0.73	
2nd sub-pillar: Regulation	133	29.14	
3.2.1 Regulatory quality	127	24.17	
3.2.2 ICT regulatory environment	134	0.00	○
3.2.3 Regulation of emerging technologies	88	30.65	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	126	24.19	
3rd sub-pillar: Inclusion	78	56.83	
3.3.1 E-Participation	115	23.26	
3.3.2 Socioeconomic gap in use of digital payments	27	92.97	●
3.3.3 Availability of local online content	79	53.61	●

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	100	5.22	
B. People pillar	119	25.89	
1st sub-pillar: Individuals	72	46.48	
2.1.1 Mobile broadband internet traffic within the country	5	59.04	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	119	8.02	
2.1.4 Tertiary enrollment	86	19.26	
2.1.5 Adult literacy rate	10	99.59	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	133	11.82	
2.2.1 Firms with website	95	21.60	
2.2.2 GERD financed by business enterprise	89	2.04	
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	115	19.38	
2.3.1 Government online services	113	33.33	
2.3.2 Publication and use of open data	91	8.82	
2.3.3 Government promotion of investment in emerging tech	75	33.92	●
2.3.4 R&D expenditure by governments and higher education	106	1.43	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	75	57.47	
D. Impact pillar	90	47.00	
1st sub-pillar: Economy	130	10.59	
4.1.1 High-tech and medium-high-tech manufacturing	107	0.96	○
4.1.2 High-tech exports	111	1.65	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	111	36.57	
4.1.5 Prevalence of gig economy	105	23.26	
4.1.6 ICT services exports	125	1.11	
2nd sub-pillar: Quality of Life	77	65.77	
4.2.1 Happiness	86	54.58	
4.2.2 Freedom to make life choices	60	76.13	●
4.2.3 Income inequality	43	72.86	●
4.2.4 Healthy life expectancy at birth	96	59.51	
3rd sub-pillar: SDG Contribution	65	64.63	
4.3.1 SDG 3: Good Health and Well-Being	85	62.25	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	88	69.91	
4.3.4 SDG 7: Affordable and Clean Energy	94	63.87	
4.3.5 SDG 11: Sustainable Cities and Communities	72	62.49	●

NOTE: ● a strength and ○ a weakness.

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Tanzania

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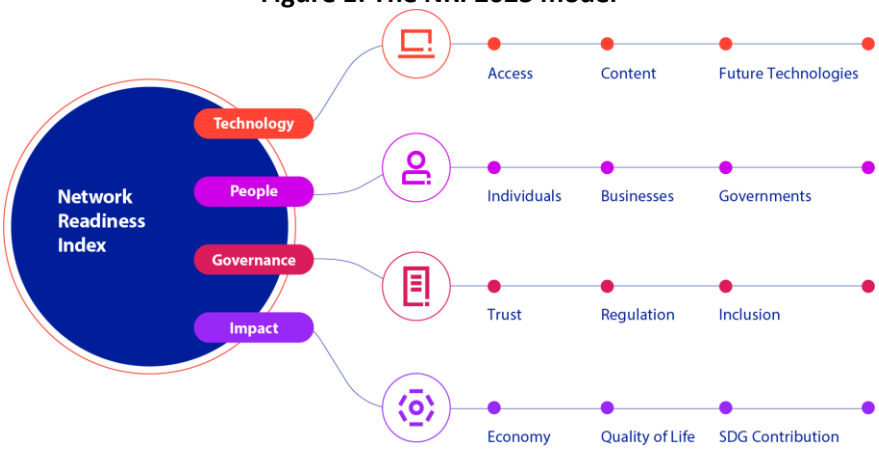
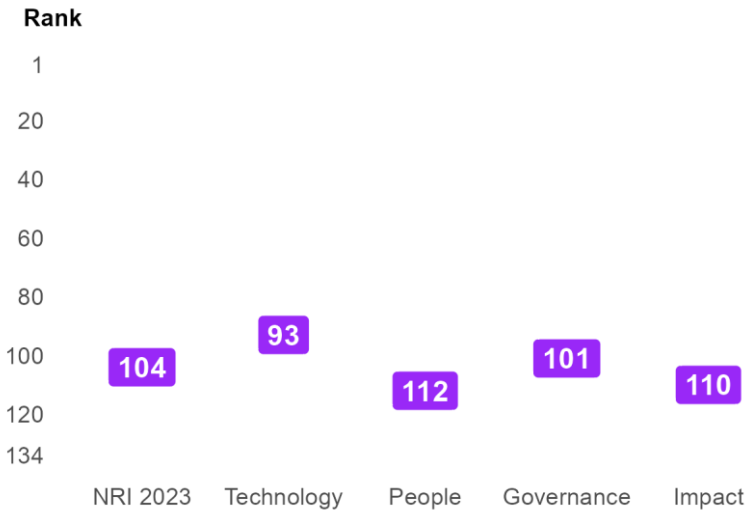
Figure 1: The NRI 2023 model



Global NRI position of Tanzania

Tanzania ranks 104th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Tanzania global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tanzania relate to Trust, Regulation and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Inclusion sub-pillars.

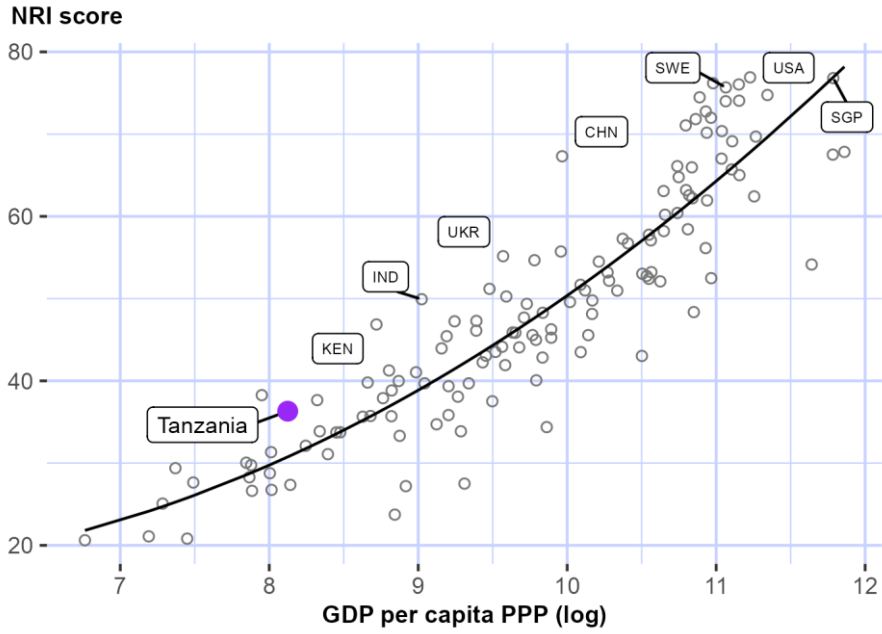
Table 1: Tanzania rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	74	Content	108
Regulation	85	Businesses	108
Access	87	Economy	108
Future Technologies	94	Individuals	114
Governments	98	SDG Contribution	114
Quality of Life	106	Inclusion	120

NRI score and income

Figure 3 shows the position of Tanzania in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tanzania is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Tanzania belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Tanzania is ranked 24th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Governance. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Access, Trust and Regulation.

Africa

Tanzania is ranked 9th within Africa (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Africa in nine of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Quality of Life and SDG Contribution.

Figure 4: Performance of Tanzania against its income group and region, overall and by pillar

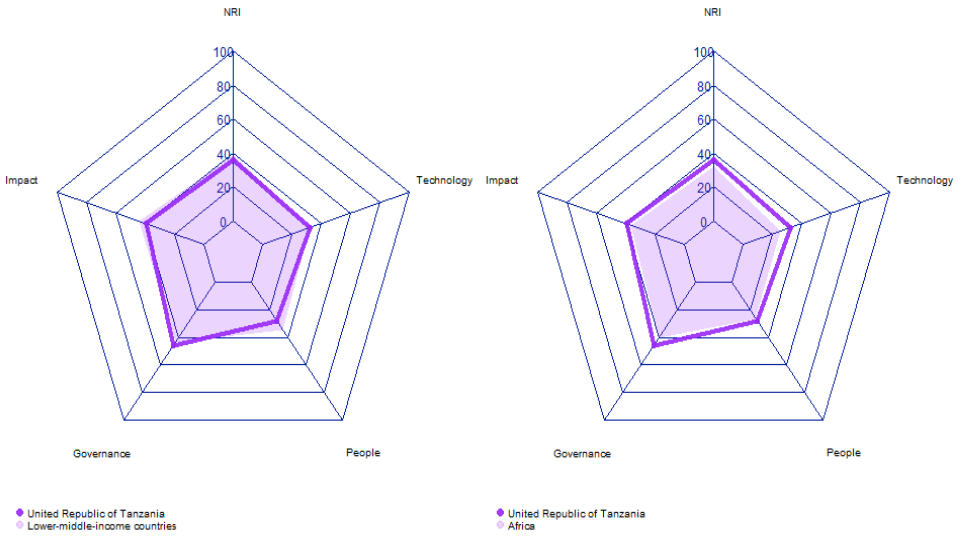


Table 2: Tanzania scores vs. averages of its income group and region, overall and by pillar

Dimension	Tanzania	Lower-middle-income countries	Africa
NRI	36.31	38.41	32.14
Technology	32.02	32.12	25.14
People	27.91	34.38	26.19
Governance	45.77	43.27	40.44
Impact	39.55	43.89	36.77

Strongest and weakest indicators

The indicators where Tanzania performs particularly well include 3.2.5 Privacy protection by law content, 1.1.3 FTTH/building Internet subscriptions, and 3.1.2 Cybersecurity (Table 3). By contrast, the economy's weakest indicators include 1.3.4 Computer software spending, 2.1.3 Use of virtual social networks, and 2.2.3 Knowledge intensive employment.

Table 3: Highlight of Strengths and Opportunities for Tanzania

Strongest indicators	Rank	Weakest indicators	Rank
3.2.5 Privacy protection by law content	8	4.1.3 PCT patent applications	99
1.1.3 FTTH/building Internet subscriptions	16	3.3.4 Gender gap in Internet use	105
3.1.2 Cybersecurity	45	2.1.3 Use of virtual social networks	126
4.2.2 Freedom to make life choices	47	2.2.3 Knowledge intensive employment	126
3.1.3 Online access to financial account	51	1.3.4 Computer software spending	127
1.3.2 Investment in emerging technologies	59		
2.3.4 R&D expenditure by governments and higher education	61		
2.1.1 Mobile broadband internet traffic within the country	63		
1.2.4 AI scientific publications	64		
4.1.4 Domestic market size	68		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Tanzania

Network Readiness Index Rank: 104 (out of 134) Score: 36.31

Pillar/sub-pillar	Rank	Score
A. Technology pillar	93	32.02
1st sub-pillar: Access	87	56.19
2nd sub-pillar: Content	108	13.38
3rd sub-pillar: Future Technologies	94	26.48
B. People pillar	112	27.91
1st sub-pillar: Individuals	114	26.55
2nd sub-pillar: Businesses	108	30.36
3rd sub-pillar: Governments	98	26.81

Pillar/sub-pillar	Rank	Score
C. Governance pillar	101	45.77
1st sub-pillar: Trust	74	40.25
2nd sub-pillar: Regulation	85	61.76
3rd sub-pillar: Inclusion	120	35.28
D. Impact pillar	110	39.55
1st sub-pillar: Economy	108	16.81
2nd sub-pillar: Quality of Life	106	51.95
3rd sub-pillar: SDG Contribution	114	49.90

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	93	32.02	
1st sub-pillar: Access	87	56.19	
1.1.1 Mobile tariffs	108	32.44	
1.1.2 Handset prices	101	32.17	
1.1.3 FTTH/building Internet subscriptions	16	53.07	•
1.1.4 Population covered by at least a 3G mobile network	114	94.47	
1.1.5 International Internet bandwidth	82	68.78	
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	108	13.38	
1.2.1 GitHub commits	122	0.43	
1.2.2 Internet domain registrations	120	0.19	
1.2.3 Mobile apps development	106	46.62	
1.2.4 AI scientific publications	64	6.30	•
3rd sub-pillar: Future Technologies	94	26.48	
1.3.1 Adoption of emerging technologies	88	37.57	
1.3.2 Investment in emerging technologies	59	41.50	•

Indicator	Rank	Score	
C. Governance pillar	101	45.77	
1st sub-pillar: Trust	74	40.25	
3.1.1 Secure Internet servers	117	28.75	
3.1.2 Cybersecurity	45	90.41	•
3.1.3 Online access to financial account	51	35.69	•
3.1.4 Internet shopping	105	6.16	
2nd sub-pillar: Regulation	85	61.76	
3.2.1 Regulatory quality	107	35.44	
3.2.2 ICT regulatory environment	74	80.00	
3.2.3 Regulation of emerging technologies	77	35.58	
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	8	91.12	•
3rd sub-pillar: Inclusion	120	35.28	
3.3.1 E-Participation	111	25.58	
3.3.2 Socioeconomic gap in use of digital payments	104	52.28	
3.3.3 Availability of local online content	95	44.71	

Indicator		Rank	Score	
1.3.3	Robot density	NA	NA	
1.3.4	Computer software spending	127	0.38	○
B. People pillar		112	27.91	
1st sub-pillar: Individuals		114	26.55	
2.1.1	Mobile broadband internet traffic within the country	63	10.17	●
2.1.2	ICT skills in the education system	79	39.39	
2.1.3	Use of virtual social networks	126	4.59	○
2.1.4	Tertiary enrollment	117	3.45	
2.1.5	Adult literacy rate	78	75.15	
2.1.6	AI talent concentration	NA	NA	
2nd sub-pillar: Businesses		108	30.36	
2.2.1	Firms with website	102	15.13	
2.2.2	GERD financed by business enterprise	NA	NA	
2.2.3	Knowledge intensive employment	126	0.78	○
2.2.4	Annual investment in telecommunication services	86	75.16	
2.2.5	GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments		98	26.81	
2.3.1	Government online services	104	41.42	
2.3.2	Publication and use of open data	69	22.06	
2.3.3	Government promotion of investment in emerging tech	73	34.67	
2.3.4	R&D expenditure by governments and higher education	61	9.09	●

Indicator		Rank	Score	
3.3.4	Gender gap in Internet use	105	0.00	○
3.3.5	Rural gap in use of digital payments	85	53.84	
D. Impact pillar		110	39.55	
1st sub-pillar: Economy		108	16.81	
4.1.1	High-tech and medium-high-tech manufacturing	96	6.62	
4.1.2	High-tech exports	102	2.80	
4.1.3	PCT patent applications	99	0.00	○
4.1.4	Domestic market size	68	51.56	●
4.1.5	Prevalence of gig economy	70	38.08	
4.1.6	ICT services exports	117	1.77	
2nd sub-pillar: Quality of Life		106	51.95	
4.2.1	Happiness	121	23.50	
4.2.2	Freedom to make life choices	47	80.15	●
4.2.3	Income inequality	79	56.53	
4.2.4	Healthy life expectancy at birth	107	47.63	
3rd sub-pillar: SDG Contribution		114	49.90	
4.3.1	SDG 3: Good Health and Well-Being	117	29.80	
4.3.2	SDG 4: Quality Education	NA	NA	
4.3.3	SDG 5: Women's economic opportunity	76	73.45	
4.3.4	SDG 7: Affordable and Clean Energy	108	55.27	
4.3.5	SDG 11: Sustainable Cities and Communities	110	41.06	

NOTE: ● a strength and ○ a weakness.

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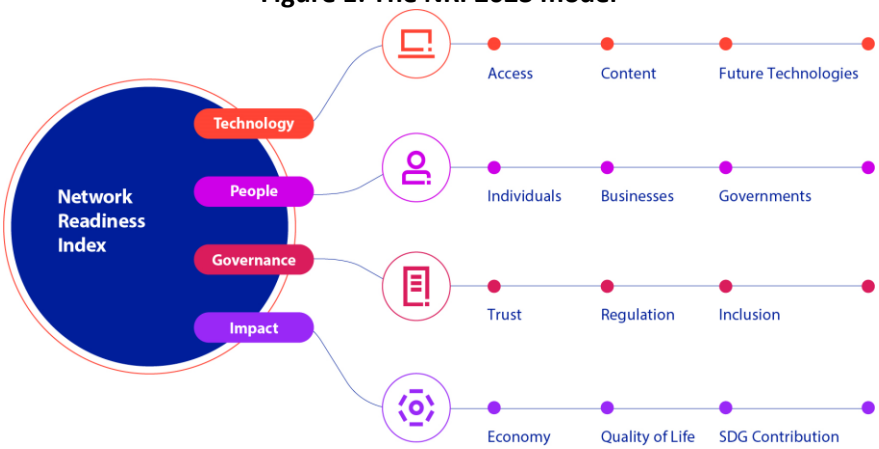
Thailand

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

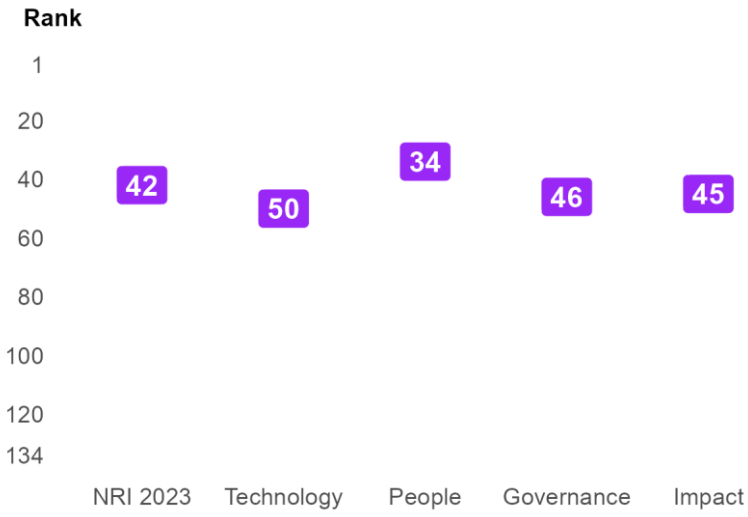
Figure 1: The NRI 2023 model



Global NRI position of Thailand

Thailand ranks 42nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Technology.

Figure 2: Thailand global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Thailand relate to Individuals, Access and Economy, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Content and SDG Contribution sub-pillars.

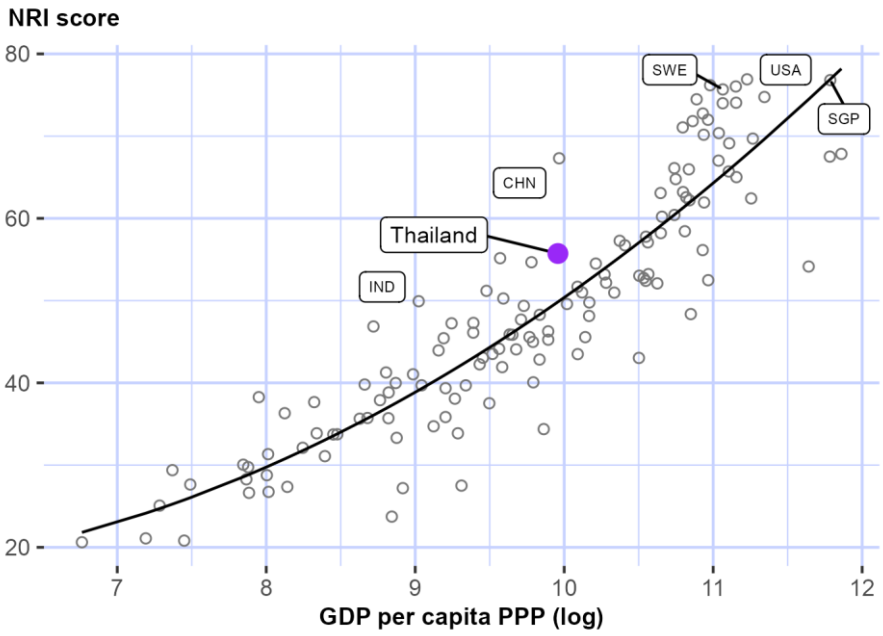
Table 1: Thailand rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	11	Businesses	43
Access	32	Trust	50
Economy	34	Future Technologies	52
Inclusion	37	Regulation	56
Quality of Life	39	Content	68
Governments	41	SDG Contribution	87

NRI score and income

Figure 3 shows the position of Thailand in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Thailand is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Thailand belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Upper-middle-income countries

Thailand is ranked 4th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and Quality of Life.

Asia & Pacific

Thailand is ranked 9th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in three of the four pillars: NRI, People, Governance and Impact. With regard to sub-pillars, it outperforms the average in Asia & Pacific in eight of the twelve sub-pillars: Access, Individuals, Businesses, Governments, Trust, Regulation, Inclusion and Quality of Life.

Figure 4: Performance of Thailand against its income group and region, overall and by pillar

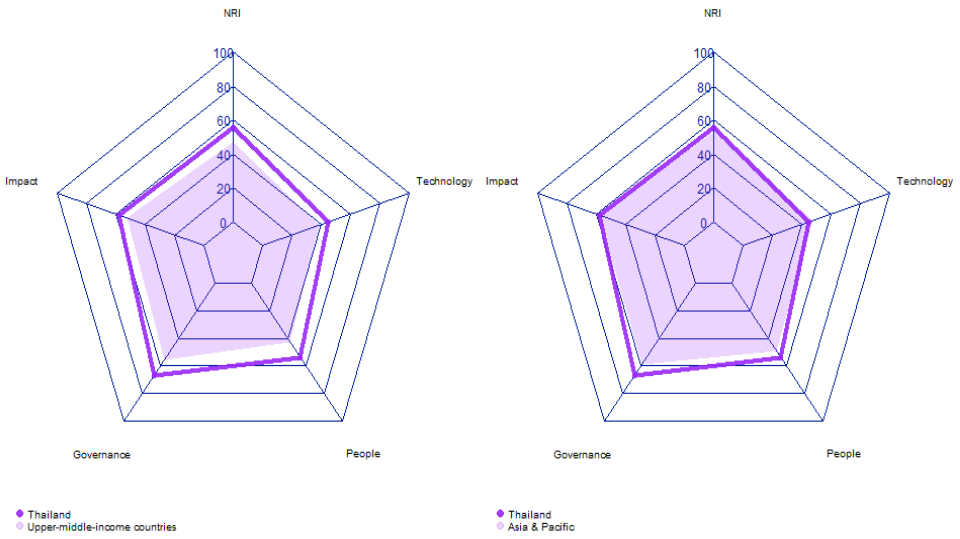


Table 2: Thailand scores vs. averages of its income group and region, overall and by pillar

Dimension	Thailand	Upper-middle-income countries	Asia & Pacific
NRI	55.73	47.35	53.28
Technology	44.73	38.48	47.34
People	53.79	42.59	48.95
Governance	66.67	55.90	59.22
Impact	57.72	52.43	57.62

Strongest and weakest indicators

The indicators where Thailand performs particularly well include 2.2.2 GERD financed by business enterprise, 3.2.4 E-commerce legislation, and 2.1.1 Mobile broadband internet traffic within the country (Table 3). By contrast, the economy's weakest indicators include 4.1.6 ICT services exports, 4.3.5 SDG 11: Sustainable Cities and Communities, and 4.3.3 SDG 5: Women's economic opportunity.

Table 3: Highlight of Strengths and Opportunities for Thailand

Strongest indicators	Rank	Weakest indicators	Rank
2.2.2 GERD financed by business enterprise	1	4.3.2 SDG 4: Quality Education	58
3.2.4 E-commerce legislation	1	2.2.3 Knowledge intensive employment	92
2.1.1 Mobile broadband internet traffic within the country	6	4.3.3 SDG 5: Women's economic opportunity	93
3.3.2 Socioeconomic gap in use of digital payments	8	4.3.5 SDG 11: Sustainable Cities and Communities	117
1.1.3 FTTH/building Internet subscriptions	9	4.1.6 ICT services exports	130
1.1.5 International Internet bandwidth	11		
4.1.2 High-tech exports	12		
3.3.1 E-Participation	18		
2.3.3 Government promotion of investment in emerging technologies	23		
4.1.4 Domestic market size	23		
4.3.1 SDG 3: Good Health and Well-Being	23		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Thailand

Network Readiness Index Rank: 42 (out of 134) Score: 55.73

Pillar/sub-pillar	Rank	Score
A. Technology pillar	50	44.73
1st sub-pillar: Access	32	74.07
2nd sub-pillar: Content	68	22.73
3rd sub-pillar: Future Technologies	52	37.39
B. People pillar	34	53.79
1st sub-pillar: Individuals	11	60.49
2nd sub-pillar: Businesses	43	53.04
3rd sub-pillar: Governments	41	47.84

Pillar/sub-pillar	Rank	Score
C. Governance pillar	46	66.67
1st sub-pillar: Trust	50	56.85
2nd sub-pillar: Regulation	56	68.21
3rd sub-pillar: Inclusion	37	74.95
D. Impact pillar	45	57.72
1st sub-pillar: Economy	34	38.68
2nd sub-pillar: Quality of Life	39	75.69
3rd sub-pillar: SDG Contribution	87	58.78

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	50	44.73	
1st sub-pillar: Access	32	74.07	
1.1.1 Mobile tariffs	75	58.09	
1.1.2 Handset prices	86	38.90	
1.1.3 FTTH/building Internet subscriptions	9	62.28	•
1.1.4 Population covered by at least a 3G mobile network	69	99.61	
1.1.5 International Internet bandwidth	11	85.63	•
1.1.6 Internet access in schools	26	99.94	
2nd sub-pillar: Content	68	22.73	
1.2.1 GitHub commits	76	4.28	
1.2.2 Internet domain registrations	73	2.97	
1.2.3 Mobile apps development	63	66.73	
1.2.4 AI scientific publications	32	16.94	
3rd sub-pillar: Future Technologies	52	37.39	
1.3.1 Adoption of emerging technologies	39	60.58	
1.3.2 Investment in emerging technologies	37	54.50	

Indicator	Rank	Score	
C. Governance pillar	46	66.67	
1st sub-pillar: Trust	50	56.85	
3.1.1 Secure Internet servers	58	60.09	
3.1.2 Cybersecurity	52	86.26	
3.1.3 Online access to financial account	77	22.52	
3.1.4 Internet shopping	36	58.54	
2nd sub-pillar: Regulation	56	68.21	
3.2.1 Regulatory quality	64	51.73	
3.2.2 ICT regulatory environment	64	84.12	
3.2.3 Regulation of emerging technologies	66	43.64	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	74	61.54	
3rd sub-pillar: Inclusion	37	74.95	
3.3.1 E-Participation	18	77.91	•
3.3.2 Socioeconomic gap in use of digital payments	8	98.84	•
3.3.3 Availability of local online content	60	63.94	

Indicator	Rank	Score	
1.3.3 Robot density	32	8.53	
1.3.4 Computer software spending	52	25.97	
B. People pillar	34	53.79	
1st sub-pillar: Individuals	11	60.49	
2.1.1 Mobile broadband internet traffic within the country	6	58.54	●
2.1.2 ICT skills in the education system	50	55.61	
2.1.3 Use of virtual social networks	56	68.52	
2.1.4 Tertiary enrollment	72	27.85	
2.1.5 Adult literacy rate	57	91.94	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	43	53.04	
2.2.1 Firms with website	73	41.59	
2.2.2 GERD financed by business enterprise	1	100.00	●
2.2.3 Knowledge intensive employment	92	17.78	○
2.2.4 Annual investment in telecommunication services	26	85.32	
2.2.5 GERD performed by business enterprise	31	20.53	
3rd sub-pillar: Governments	41	47.84	
2.3.1 Government online services	47	75.28	
2.3.2 Publication and use of open data	58	27.94	
2.3.3 Government promotion of investment in emerging tech	23	64.36	●
2.3.4 R&D expenditure by governments and higher education	32	23.80	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	67	66.74	
3.3.5 Rural gap in use of digital payments	55	67.30	
D. Impact pillar	45	57.72	
1st sub-pillar: Economy	34	38.68	
4.1.1 High-tech and medium-high-tech manufacturing	20	54.99	
4.1.2 High-tech exports	12	49.95	●
4.1.3 PCT patent applications	57	4.69	
4.1.4 Domestic market size	23	70.77	●
4.1.5 Prevalence of gig economy	49	50.87	
4.1.6 ICT services exports	130	0.82	○
2nd sub-pillar: Quality of Life	39	75.69	
4.2.1 Happiness	53	67.97	
4.2.2 Freedom to make life choices	33	84.22	
4.2.3 Income inequality	51	70.10	
4.2.4 Healthy life expectancy at birth	44	80.45	
3rd sub-pillar: SDG Contribution	87	58.78	
4.3.1 SDG 3: Good Health and Well-Being	23	89.56	●
4.3.2 SDG 4: Quality Education	58	31.97	○
4.3.3 SDG 5: Women's economic opportunity	93	69.03	○
4.3.4 SDG 7: Affordable and Clean Energy	84	67.27	
4.3.5 SDG 11: Sustainable Cities and Communities	117	36.09	○

NOTE: ● a strength and ○ a weakness.

Sources

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Tunisia

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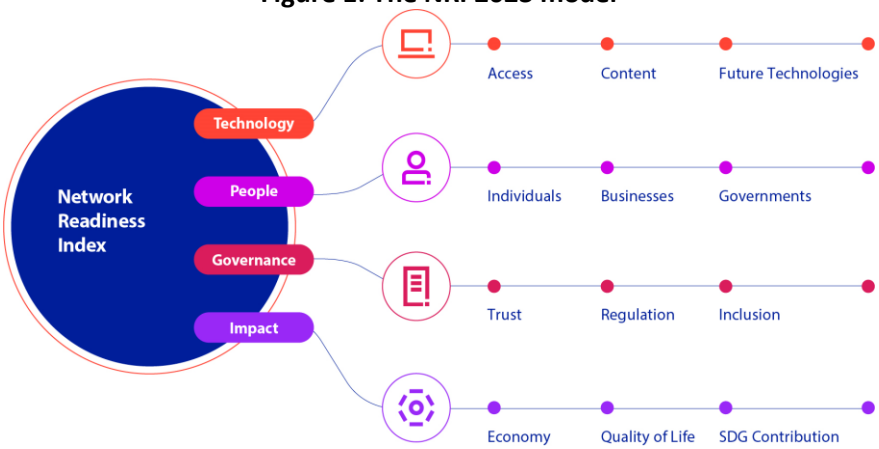
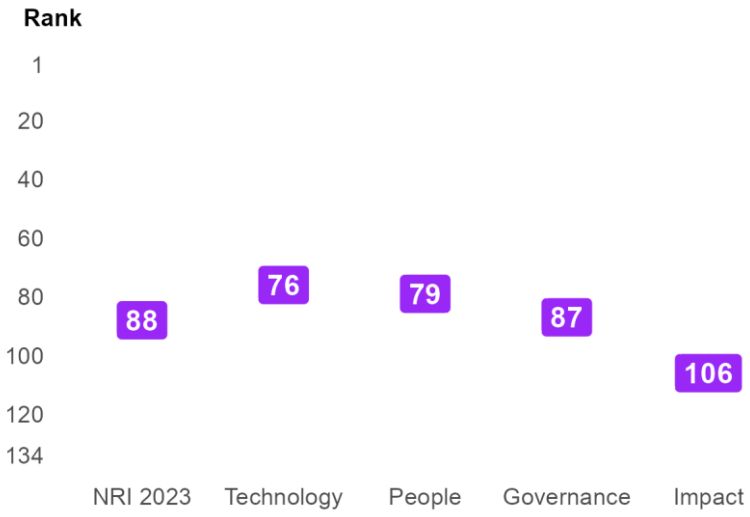
Figure 1: The NRI 2023 model



Global NRI position of Tunisia

Tunisia ranks 88th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Tunisia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Tunisia relate to Individuals, Future Technologies and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Regulation and Quality of Life sub-pillars.

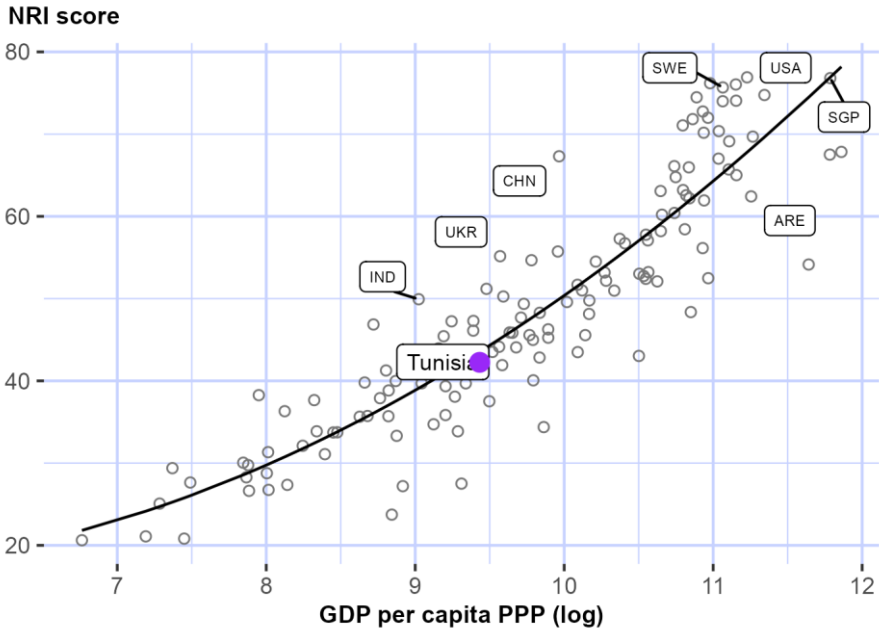
Table 1: Tunisia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	67	Economy	92
Future Technologies	68	Businesses	93
Governments	71	Inclusion	94
Access	73	SDG Contribution	96
Trust	73	Regulation	97
Content	77	Quality of Life	107

NRI score and income

Figure 3 shows the position of Tunisia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Tunisia is slightly below the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Tunisia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

Lower-middle-income countries

Tunisia is ranked 13th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Governance. At the sub-pillar level, it outperforms lower-middle-income countries in eight of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation and Inclusion.

Arab States

Tunisia is ranked 10th within Arab States (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Arab States in two of the twelve sub-pillars: Content and Governments.

Figure 4: Performance of Tunisia against its income group and region, overall and by pillar

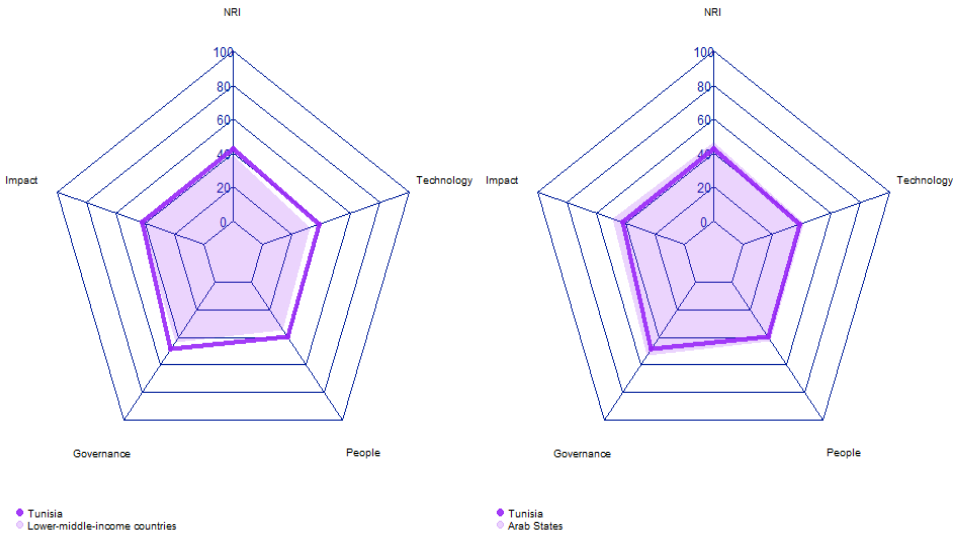


Table 2: Tunisia scores vs. averages of its income group and region, overall and by pillar

Dimension	Tunisia	Lower-middle-income countries	Arab States
NRI	42.25	38.41	46.59
Technology	38.29	32.12	41.17
People	39.89	34.38	42.66
Governance	48.72	43.27	53.45
Impact	42.11	43.89	49.08

Strongest and weakest indicators

The indicators where Tunisia performs particularly well include 2.1.2 ICT skills in the education system, 1.2.4 AI scientific publications, and 1.3.4 Computer software spending (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 4.3.3 SDG 5: Women's economic opportunity, and 3.3.5 Rural gap in use of digital payments.

Table 3: Highlight of Strengths and Opportunities for Tunisia

Strongest indicators	Rank	Weakest indicators	Rank
2.1.2 ICT skills in the education system	27	4.3.2 SDG 4: Quality Education	71
1.2.4 AI scientific publications	30	3.2.4 E-commerce legislation	87
1.3.4 Computer software spending	36	3.3.5 Rural gap in use of digital payments	112
4.2.3 Income inequality	37	4.3.3 SDG 5: Women's economic opportunity	118
2.3.4 R&D expenditure by governments and higher education	49	4.2.2 Freedom to make life choices	127
2.3.3 Government promotion of investment in emerging technologies	51		
1.1.5 International Internet bandwidth	52		
3.1.2 Cybersecurity	53		
4.2.4 Healthy life expectancy at birth	54		
2.1.1 Mobile broadband internet traffic within the country	58		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Tunisia

Network Readiness Index — Rank: 88 (out of 134) — Score: 42.25

Pillar/sub-pillar	Rank	Score
A. Technology pillar	76	38.29
1st sub-pillar: Access	73	62.40
2nd sub-pillar: Content	77	20.61
3rd sub-pillar: Future Technologies	68	31.86
B. People pillar	79	39.89
1st sub-pillar: Individuals	67	47.08
2nd sub-pillar: Businesses	93	35.58
3rd sub-pillar: Governments	71	37.01

Pillar/sub-pillar	Rank	Score
C. Governance pillar	87	48.72
1st sub-pillar: Trust	73	40.31
2nd sub-pillar: Regulation	97	57.06
3rd sub-pillar: Inclusion	94	48.79
D. Impact pillar	106	42.11
1st sub-pillar: Economy	92	21.07
2nd sub-pillar: Quality of Life	107	50.96
3rd sub-pillar: SDG Contribution	96	54.29

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	76	38.29	
1st sub-pillar: Access	73	62.40	
1.1.1 Mobile tariffs	70	59.94	
1.1.2 Handset prices	83	39.80	
1.1.3 FTTH/building Internet subscriptions	85	22.15	
1.1.4 Population covered by at least a 3G mobile network	57	99.67	
1.1.5 International Internet bandwidth	52	73.83	•
1.1.6 Internet access in schools	42	79.02	
2nd sub-pillar: Content	77	20.61	
1.2.1 GitHub commits	66	6.92	
1.2.2 Internet domain registrations	75	2.49	
1.2.3 Mobile apps development	98	55.05	
1.2.4 AI scientific publications	30	17.98	•
3rd sub-pillar: Future Technologies	68	31.86	
1.3.1 Adoption of emerging technologies	104	29.39	
1.3.2 Investment in emerging technologies	81	35.50	

Indicator	Rank	Score	
C. Governance pillar	87	48.72	
1st sub-pillar: Trust	73	40.31	
3.1.1 Secure Internet servers	83	46.00	
3.1.2 Cybersecurity	53	85.99	•
3.1.3 Online access to financial account	106	10.37	
3.1.4 Internet shopping	71	18.86	
2nd sub-pillar: Regulation	97	57.06	
3.2.1 Regulatory quality	91	40.82	
3.2.2 ICT regulatory environment	91	70.35	
3.2.3 Regulation of emerging technologies	63	44.42	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	69	63.04	
3rd sub-pillar: Inclusion	94	48.79	
3.3.1 E-Participation	67	53.49	
3.3.2 Socioeconomic gap in use of digital payments	81	65.35	
3.3.3 Availability of local online content	83	51.44	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	36	30.70	●
B. People pillar	79	39.89	
1st sub-pillar: Individuals	67	47.08	
2.1.1 Mobile broadband internet traffic within the country	58	10.75	●
2.1.2 ICT skills in the education system	27	70.39	●
2.1.3 Use of virtual social networks	80	54.45	
2.1.4 Tertiary enrollment	79	23.45	
2.1.5 Adult literacy rate	75	76.38	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	93	35.58	
2.2.1 Firms with website	57	54.30	
2.2.2 GERD financed by business enterprise	68	23.44	
2.2.3 Knowledge intensive employment	85	21.34	
2.2.4 Annual investment in telecommunication services	83	75.76	
2.2.5 GERD performed by business enterprise	59	3.08	
3rd sub-pillar: Governments	71	37.01	
2.3.1 Government online services	85	56.13	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	51	44.80	●
2.3.4 R&D expenditure by governments and higher education	49	13.28	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	95	45.59	
3.3.5 Rural gap in use of digital payments	112	28.07	○
D. Impact pillar	106	42.11	
1st sub-pillar: Economy	92	21.07	
4.1.1 High-tech and medium-high-tech manufacturing	52	29.28	
4.1.2 High-tech exports	63	12.76	
4.1.3 PCT patent applications	74	1.89	
4.1.4 Domestic market size	77	48.44	
4.1.5 Prevalence of gig economy	107	22.09	
4.1.6 ICT services exports	70	11.98	
2nd sub-pillar: Quality of Life	107	50.96	
4.2.1 Happiness	108	35.50	
4.2.2 Freedom to make life choices	127	16.58	○
4.2.3 Income inequality	37	75.88	●
4.2.4 Healthy life expectancy at birth	54	75.87	●
3rd sub-pillar: SDG Contribution	96	54.29	
4.3.1 SDG 3: Good Health and Well-Being	70	68.12	
4.3.2 SDG 4: Quality Education	71	15.23	○
4.3.3 SDG 5: Women's economic opportunity	118	49.56	○
4.3.4 SDG 7: Affordable and Clean Energy	66	72.18	
4.3.5 SDG 11: Sustainable Cities and Communities	67	66.34	

NOTE: ● a strength and ○ a weakness.

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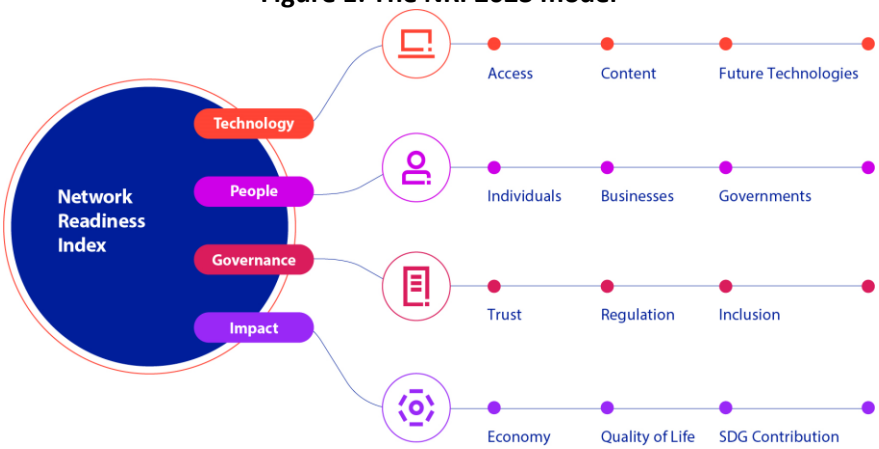
Türkiye

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

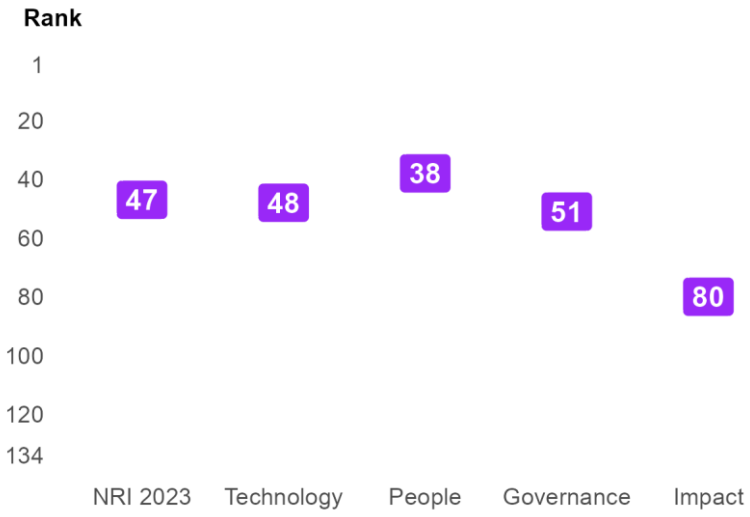
Figure 1: The NRI 2023 model



Global NRI position of Türkiye

Türkiye ranks 47th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Türkiye global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Türkiye relate to Individuals, Access and SDG Contribution, among others (Table 1). More could be done, though, to improve the economy's performances in the Regulation, Future Technologies and Quality of Life sub-pillars.

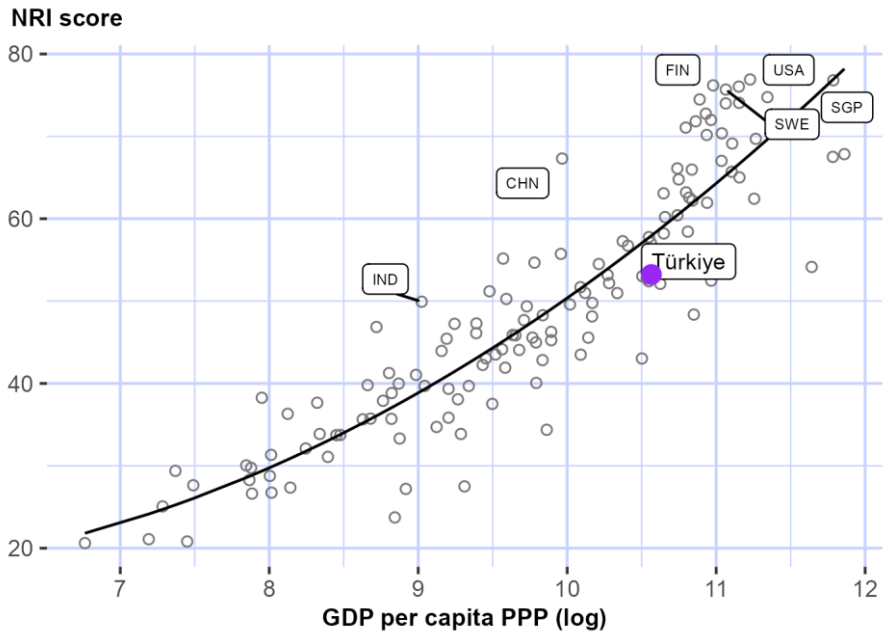
Table 1: Türkiye rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	19	Content	48
Access	29	Inclusion	56
SDG Contribution	36	Economy	59
Governments	44	Regulation	63
Businesses	45	Future Technologies	65
Trust	45	Quality of Life	117

NRI score and income

Figure 3 shows the position of Türkiye in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Türkiye is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Türkiye belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Upper-middle-income countries

Türkiye is ranked 6th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, People and Governance. At the sub-pillar level, it outperforms upper-middle-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Europe

Türkiye is ranked 30th within Europe (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Access and Individuals.

Figure 4: Performance of Türkiye against its income group and region, overall and by pillar

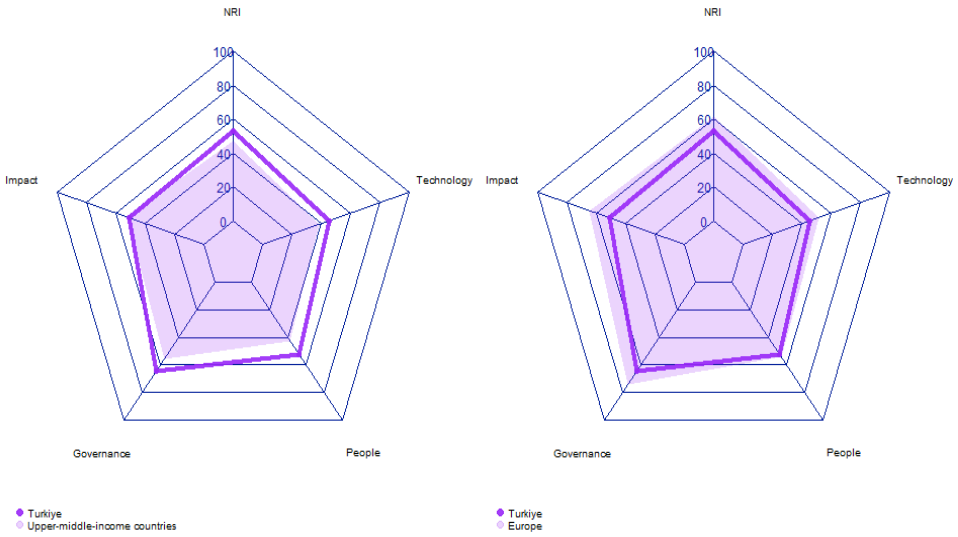


Table 2: Türkiye scores vs. averages of its income group and region, overall and by pillar

Dimension	Türkiye	Upper-middle-income countries	Europe
NRI	53.22	47.35	61.25
Technology	45.29	38.48	51.90
People	52.66	42.59	54.16
Governance	64.31	55.90	74.33
Impact	50.63	52.43	64.61

Strongest and weakest indicators

The indicators where Türkiye performs particularly well include 3.2.4 E-commerce legislation, 2.1.4 Tertiary enrollment, and 1.1.1 Mobile tariffs (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 1.3.2 Investment in emerging technologies, and 4.2.1 Happiness.

Table 3: Highlight of Strengths and Opportunities for Türkiye

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.1.2 ICT skills in the education system	90
2.1.4 Tertiary enrollment	2	3.3.4 Gender gap in Internet use	90
1.1.1 Mobile tariffs	6	1.3.2 Investment in emerging technologies	105
2.1.1 Mobile broadband internet traffic within the country	11	4.2.1 Happiness	105
4.1.4 Domestic market size	11	4.2.2 Freedom to make life choices	129
2.2.2 GERD financed by business enterprise	12		
1.1.5 International Internet bandwidth	13		
3.1.2 Cybersecurity	16		
3.3.1 E-Participation	18		
4.3.4 SDG 7: Affordable and Clean Energy	19		
1.2.4 AI scientific publications	20		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Türkiye

Network Readiness Index Rank: 47 (out of 134) Score: 53.22

Pillar/sub-pillar	Rank	Score
A. Technology pillar	48	45.29
1st sub-pillar: Access	29	74.78
2nd sub-pillar: Content	48	28.99
3rd sub-pillar: Future Technologies	65	32.10
B. People pillar	38	52.66
1st sub-pillar: Individuals	19	57.93
2nd sub-pillar: Businesses	45	52.86
3rd sub-pillar: Governments	44	47.18

Pillar/sub-pillar	Rank	Score
C. Governance pillar	51	64.31
1st sub-pillar: Trust	45	61.44
2nd sub-pillar: Regulation	63	66.42
3rd sub-pillar: Inclusion	56	65.07
D. Impact pillar	80	50.63
1st sub-pillar: Economy	59	31.12
2nd sub-pillar: Quality of Life	117	45.86
3rd sub-pillar: SDG Contribution	36	74.91

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	48	45.29	
1st sub-pillar: Access	29	74.78	
1.1.1 Mobile tariffs	6	95.77	●
1.1.2 Handset prices	70	44.42	
1.1.3 FTTH/building Internet subscriptions	19	48.55	
1.1.4 Population covered by at least a 3G mobile network	44	99.92	
1.1.5 International Internet bandwidth	13	85.27	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	48	28.99	
1.2.1 GitHub commits	54	9.75	
1.2.2 Internet domain registrations	50	6.82	
1.2.3 Mobile apps development	22	75.84	
1.2.4 AI scientific publications	20	23.53	●
3rd sub-pillar: Future Technologies	65	32.10	
1.3.1 Adoption of emerging technologies	58	49.37	
1.3.2 Investment in emerging technologies	105	27.50	○

Indicator	Rank	Score	
C. Governance pillar	51	64.31	
1st sub-pillar: Trust	45	61.44	
3.1.1 Secure Internet servers	46	70.39	
3.1.2 Cybersecurity	16	97.45	●
3.1.3 Online access to financial account	42	43.39	
3.1.4 Internet shopping	58	34.54	
2nd sub-pillar: Regulation	63	66.42	
3.2.1 Regulatory quality	76	47.75	
3.2.2 ICT regulatory environment	21	93.53	
3.2.3 Regulation of emerging technologies	66	43.64	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	104	47.18	
3rd sub-pillar: Inclusion	56	65.07	
3.3.1 E-Participation	18	77.91	●
3.3.2 Socioeconomic gap in use of digital payments	85	61.83	
3.3.3 Availability of local online content	47	69.95	

Indicator	Rank	Score	
1.3.3 Robot density	35	6.07	
1.3.4 Computer software spending	23	45.46	
B. People pillar	38	52.66	
1st sub-pillar: Individuals	19	57.93	
2.1.1 Mobile broadband internet traffic within the country	11	45.12	●
2.1.2 ICT skills in the education system	90	28.26	○
2.1.3 Use of virtual social networks	53	68.82	
2.1.4 Tertiary enrollment	2	77.21	●
2.1.5 Adult literacy rate	40	95.55	
2.1.6 AI talent concentration	10	32.62	
2nd sub-pillar: Businesses	45	52.86	
2.2.1 Firms with website	66	46.07	
2.2.2 GERD financed by business enterprise	12	77.22	●
2.2.3 Knowledge intensive employment	56	34.54	
2.2.4 Annual investment in telecommunication services	20	86.03	
2.2.5 GERD performed by business enterprise	32	20.45	
3rd sub-pillar: Governments	44	47.18	
2.3.1 Government online services	24	84.53	
2.3.2 Publication and use of open data	49	33.82	
2.3.3 Government promotion of investment in emerging tech	39	50.19	
2.3.4 R&D expenditure by governments and higher education	35	20.19	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	90	55.90	○
3.3.5 Rural gap in use of digital payments	73	59.78	
D. Impact pillar	80	50.63	
1st sub-pillar: Economy	59	31.12	
4.1.1 High-tech and medium-high-tech manufacturing	36	36.76	
4.1.2 High-tech exports	85	5.71	
4.1.3 PCT patent applications	31	18.38	
4.1.4 Domestic market size	11	78.62	●
4.1.5 Prevalence of gig economy	66	39.83	
4.1.6 ICT services exports	89	7.43	
2nd sub-pillar: Quality of Life	117	45.86	
4.2.1 Happiness	105	37.46	○
4.2.2 Freedom to make life choices	129	11.98	○
4.2.3 Income inequality	87	53.02	
4.2.4 Healthy life expectancy at birth	43	80.97	
3rd sub-pillar: SDG Contribution	36	74.91	
4.3.1 SDG 3: Good Health and Well-Being	34	82.57	
4.3.2 SDG 4: Quality Education	40	52.41	
4.3.3 SDG 5: Women's economic opportunity	71	75.22	
4.3.4 SDG 7: Affordable and Clean Energy	19	81.29	●
4.3.5 SDG 11: Sustainable Cities and Communities	32	83.07	

NOTE: ● a strength and ○ a weakness.

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Uganda

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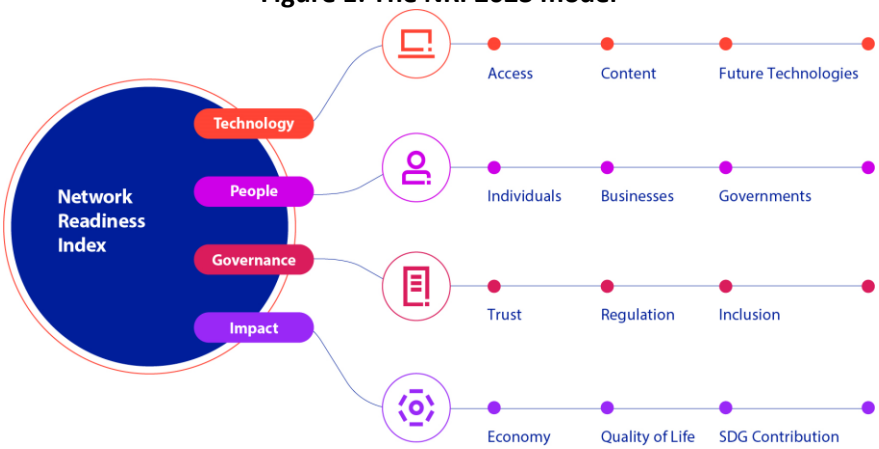
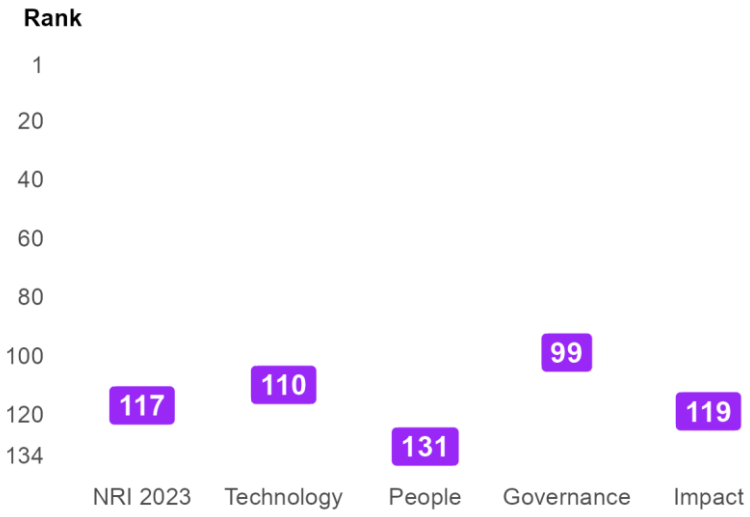
Figure 1: The NRI 2023 model



Global NRI position of Uganda

Uganda ranks 117th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns People.

Figure 2: Uganda global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Uganda relate to Trust, Regulation and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Individuals and Businesses sub-pillars.

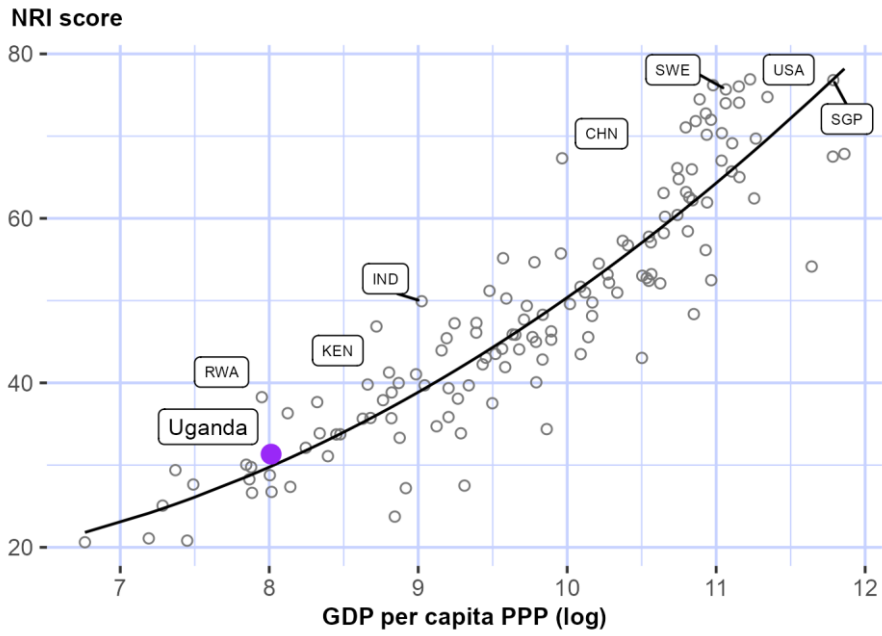
Table 1: Uganda rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Trust	85	Governments	110
Regulation	92	Content	113
Access	104	Quality of Life	115
Future Technologies	104	SDG Contribution	120
Inclusion	106	Individuals	121
Economy	106	Businesses	134

NRI score and income

Figure 3 shows the position of Uganda in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Uganda is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Uganda belongs to the group of low-income countries, where the best performer is Rwanda (RWA). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Low-income countries

Uganda is ranked 2nd in the group of low-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in three of the four pillars: NRI, Technology, Governance and Impact. At the sub-pillar level, it outperforms low-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Africa

Uganda is ranked 15th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: Technology and Governance. With regard to sub-pillars, it outperforms the average in Africa in seven of the twelve sub-pillars: Access, Content, Trust, Regulation, Inclusion, Economy and Quality of Life.

Figure 4: Performance of Uganda against its income group and region, overall and by pillar

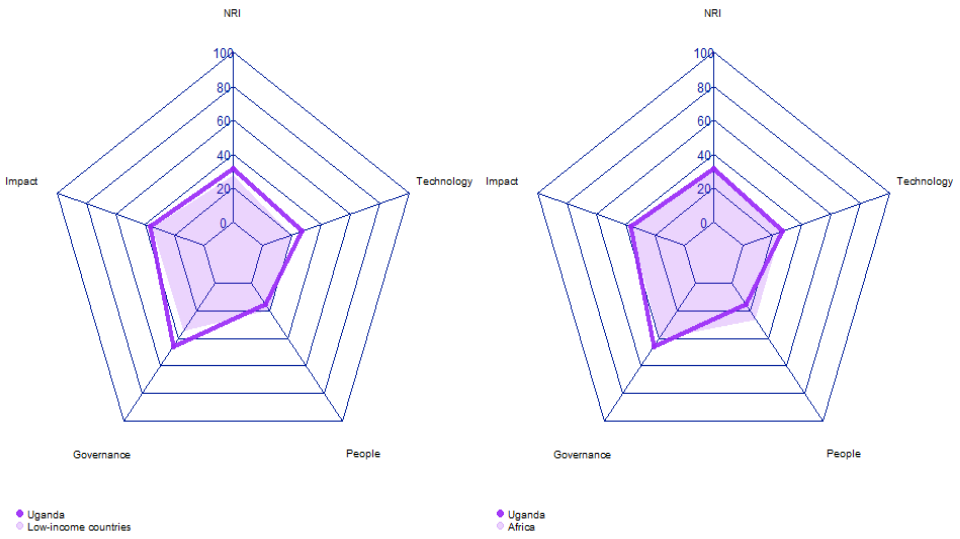


Table 2: Uganda scores vs. averages of its income group and region, overall and by pillar

Dimension	Uganda	Low-income countries	Africa
NRI	31.33	27.19	32.14
Technology	27.11	19.75	25.14
People	15.56	19.57	26.19
Governance	46.10	34.61	40.44
Impact	36.55	34.82	36.77

Strongest and weakest indicators

The indicators where Uganda performs particularly well include 3.2.4 E-commerce legislation, 1.1.5 International Internet bandwidth, and 3.2.2 ICT regulatory environment (Table 3). By contrast, the economy's weakest indicators include 2.1.3 Use of virtual social networks, 4.3.4 SDG 7: Affordable and Clean Energy, and 2.1.4 Tertiary enrollment.

Table 3: Highlight of Strengths and Opportunities for Uganda

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	2.2.1 Firms with website	107
1.1.5 International Internet bandwidth	34	1.3.4 Computer software spending	124
3.2.2 ICT regulatory environment	58	2.1.4 Tertiary enrollment	126
1.2.4 AI scientific publications	62	4.3.4 SDG 7: Affordable and Clean Energy	130
3.1.3 Online access to financial account	63	2.1.3 Use of virtual social networks	132
3.3.5 Rural gap in use of digital payments	71		
4.1.6 ICT services exports	76		
4.3.3 SDG 5: Women's economic opportunity	76		
1.3.2 Investment in emerging technologies	78		
3.1.2 Cybersecurity	79		
4.1.4 Domestic market size	80		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Uganda

Network Readiness Index Rank: 117 (out of 134) Score: 31.33

Pillar/sub-pillar	Rank	Score
A. Technology pillar	110	27.11
1st sub-pillar: Access	104	47.41
2nd sub-pillar: Content	113	11.71
3rd sub-pillar: Future Technologies	104	22.20
B. People pillar	131	15.56
1st sub-pillar: Individuals	121	20.12
2nd sub-pillar: Businesses	134	4.61
3rd sub-pillar: Governments	110	21.96

Pillar/sub-pillar	Rank	Score
C. Governance pillar	99	46.10
1st sub-pillar: Trust	85	34.46
2nd sub-pillar: Regulation	92	59.73
3rd sub-pillar: Inclusion	106	44.11
D. Impact pillar	119	36.55
1st sub-pillar: Economy	106	17.39
2nd sub-pillar: Quality of Life	115	47.13
3rd sub-pillar: SDG Contribution	120	45.14

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	110	27.11	
1st sub-pillar: Access	104	47.41	
1.1.1 Mobile tariffs	112	29.42	
1.1.2 Handset prices	107	29.98	
1.1.3 FTTH/building Internet subscriptions	115	6.44	
1.1.4 Population covered by at least a 3G mobile network	114	94.47	
1.1.5 International Internet bandwidth	34	76.76	•
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	113	11.71	
1.2.1 GitHub commits	110	1.24	
1.2.2 Internet domain registrations	122	0.15	
1.2.3 Mobile apps development	113	38.77	
1.2.4 AI scientific publications	62	6.67	•
3rd sub-pillar: Future Technologies	104	22.20	
1.3.1 Adoption of emerging technologies	102	29.80	
1.3.2 Investment in emerging technologies	78	36.00	•

Indicator	Rank	Score	
C. Governance pillar	99	46.10	
1st sub-pillar: Trust	85	34.46	
3.1.1 Secure Internet servers	118	28.41	
3.1.2 Cybersecurity	79	69.45	•
3.1.3 Online access to financial account	63	30.31	•
3.1.4 Internet shopping	91	9.67	
2nd sub-pillar: Regulation	92	59.73	
3.2.1 Regulatory quality	96	38.83	
3.2.2 ICT regulatory environment	58	84.71	•
3.2.3 Regulation of emerging technologies	100	23.64	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	93	51.49	
3rd sub-pillar: Inclusion	106	44.11	
3.3.1 E-Participation	87	39.54	
3.3.2 Socioeconomic gap in use of digital payments	105	51.47	
3.3.3 Availability of local online content	123	23.56	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	124	0.81	○
B. People pillar	131	15.56	
1st sub-pillar: Individuals	121	20.12	
2.1.1 Mobile broadband internet traffic within the country	82	6.00	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	132	1.56	○
2.1.4 Tertiary enrollment	126	1.58	○
2.1.5 Adult literacy rate	83	71.33	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	134	4.61	
2.2.1 Firms with website	107	11.21	○
2.2.2 GERD financed by business enterprise	84	4.21	
2.2.3 Knowledge intensive employment	120	2.87	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	85	0.14	
3rd sub-pillar: Governments	110	21.96	
2.3.1 Government online services	96	46.61	
2.3.2 Publication and use of open data	86	11.76	
2.3.3 Government promotion of investment in emerging tech	97	27.09	
2.3.4 R&D expenditure by governments and higher education	98	2.39	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	NA	NA	
3.3.5 Rural gap in use of digital payments	71	61.87	●
D. Impact pillar	119	36.55	
1st sub-pillar: Economy	106	17.39	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	96	3.57	
4.1.3 PCT patent applications	91	0.63	
4.1.4 Domestic market size	80	47.07	●
4.1.5 Prevalence of gig economy	102	25.29	
4.1.6 ICT services exports	76	10.38	●
2nd sub-pillar: Quality of Life	115	47.13	
4.2.1 Happiness	110	34.82	
4.2.2 Freedom to make life choices	105	55.93	
4.2.3 Income inequality	92	51.01	
4.2.4 Healthy life expectancy at birth	108	46.78	
3rd sub-pillar: SDG Contribution	120	45.14	
4.3.1 SDG 3: Good Health and Well-Being	110	36.40	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	76	73.45	●
4.3.4 SDG 7: Affordable and Clean Energy	130	27.02	○
4.3.5 SDG 11: Sustainable Cities and Communities	106	43.67	

NOTE: ● a strength and ○ a weakness.

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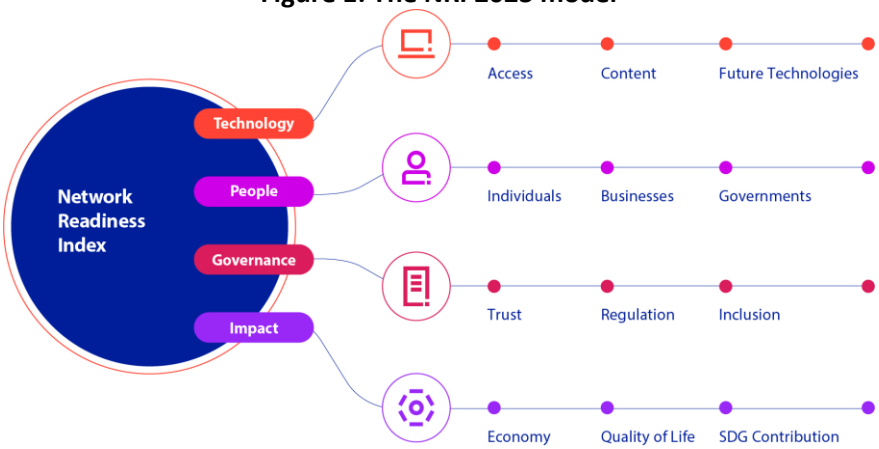
Ukraine

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

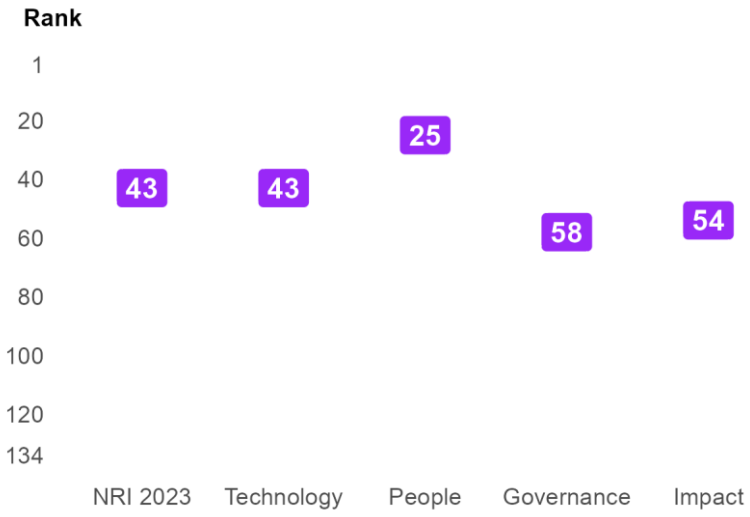
Figure 1: The NRI 2023 model



Global NRI position of Ukraine

Ukraine ranks 43rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Ukraine global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Ukraine relate to Individuals, Economy and Content, among others (Table 1). More could be done, though, to improve the economy's performances in the Inclusion, Regulation and SDG Contribution sub-pillars.

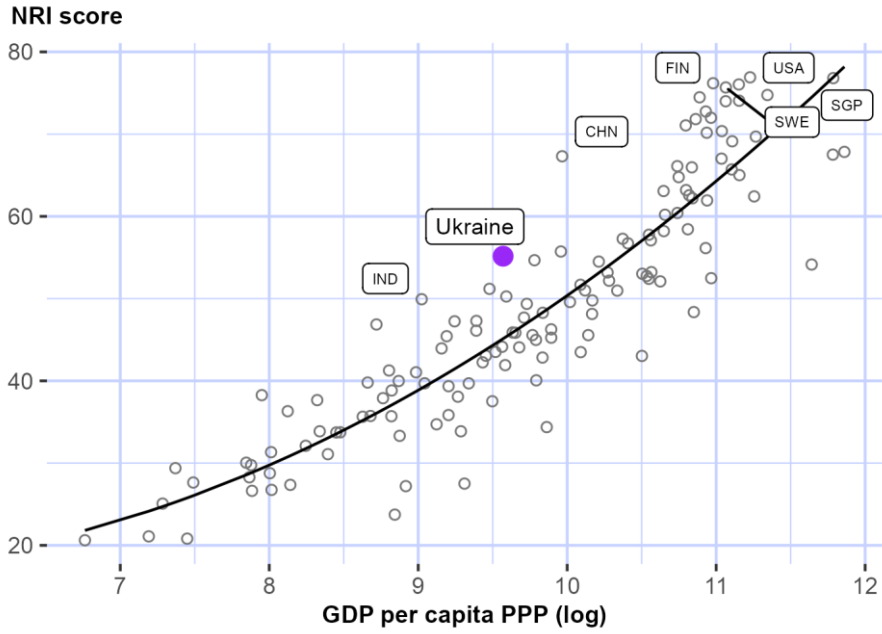
Table 1: Ukraine rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	2	Businesses	53
Economy	35	Trust	54
Content	42	Quality of Life	59
Access	43	Inclusion	60
Governments	43	Regulation	78
Future Technologies	44	SDG Contribution	86

NRI score and income

Figure 3 shows the position of Ukraine in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Ukraine is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Ukraine belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

Lower-middle-income countries

Ukraine is ranked 1st in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of lower-middle-income countries in all of them.

Europe

Ukraine is ranked 29th within Europe (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in Europe in two of the twelve sub-pillars: Access and Individuals.

Figure 4: Performance of Ukraine against its income group and region, overall and by pillar

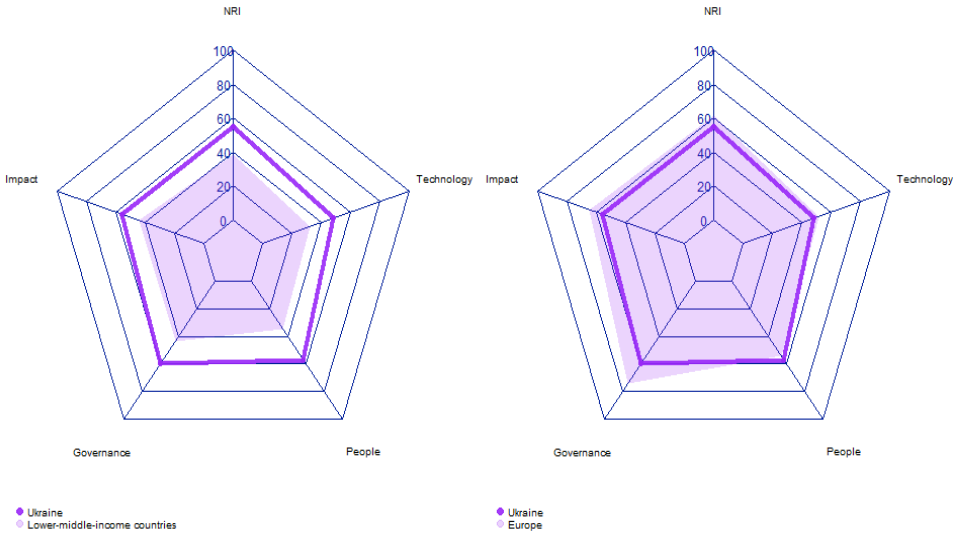


Table 2: Ukraine scores vs. averages of its income group and region, overall and by pillar

Dimension	Ukraine	Lower-middle-income countries	Europe
NRI	55.16	38.41	61.25
Technology	47.84	32.12	51.90
People	57.07	34.38	54.16
Governance	60.00	43.27	74.33
Impact	55.72	43.89	64.61

Strongest and weakest indicators

The indicators where Ukraine performs particularly well include 1.1.6 Internet access in schools, 2.1.5 Adult literacy rate, and 3.2.4 E-commerce legislation (Table 3). By contrast, the economy's weakest indicators include 4.3.4 SDG 7: Affordable and Clean Energy, 1.1.4 Population covered by at least a 3G mobile network, and 4.3.5 SDG 11: Sustainable Cities and Communities.

Table 3: Highlight of Strengths and Opportunities for Ukraine

Strongest indicators	Rank	Weakest indicators	Rank
1.1.6 Internet access in schools	1	1.3.3 Robot density	55
2.1.5 Adult literacy rate	1	4.2.1 Happiness	98
3.2.4 E-commerce legislation	1	1.1.4 Population covered by at least a 3G mobile network	104
4.2.3 Income inequality	3	4.3.5 SDG 11: Sustainable Cities and Communities	104
1.3.4 Computer software spending	4	4.3.4 SDG 7: Affordable and Clean Energy	118
4.1.6 ICT services exports	6		
1.1.3 FTTH/building Internet subscriptions	11		
1.2.3 Mobile apps development	14		
2.1.2 ICT skills in the education system	16		
2.1.4 Tertiary enrollment	21		
2.3.2 Publication and use of open data	23		
1.2.4 AI scientific publications	26		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Ukraine

Network Readiness Index Rank: 43 (out of 134) Score: 55.16

Pillar/sub-pillar	Rank	Score
A. Technology pillar	43	47.84
1st sub-pillar: Access	43	71.67
2nd sub-pillar: Content	42	32.02
3rd sub-pillar: Future Technologies	44	39.82
B. People pillar	25	57.07
1st sub-pillar: Individuals	2	74.99
2nd sub-pillar: Businesses	53	48.79
3rd sub-pillar: Governments	43	47.43

Pillar/sub-pillar	Rank	Score
C. Governance pillar	58	60.00
1st sub-pillar: Trust	54	54.61
2nd sub-pillar: Regulation	78	62.25
3rd sub-pillar: Inclusion	60	63.15
D. Impact pillar	54	55.72
1st sub-pillar: Economy	35	38.30
2nd sub-pillar: Quality of Life	59	69.83
3rd sub-pillar: SDG Contribution	86	59.03

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	43	47.84	
1st sub-pillar: Access	43	71.67	
1.1.1 Mobile tariffs	69	60.25	
1.1.2 Handset prices	92	36.65	
1.1.3 FTTH/building Internet subscriptions	11	59.96	•
1.1.4 Population covered by at least a 3G mobile network	104	97.08	○
1.1.5 International Internet bandwidth	40	76.08	
1.1.6 Internet access in schools	1	100.00	•
2nd sub-pillar: Content	42	32.02	
1.2.1 GitHub commits	41	22.45	
1.2.2 Internet domain registrations	54	6.05	
1.2.3 Mobile apps development	14	77.64	•
1.2.4 AI scientific publications	26	21.94	•
3rd sub-pillar: Future Technologies	44	39.82	
1.3.1 Adoption of emerging technologies	49	53.00	
1.3.2 Investment in emerging technologies	64	40.50	

Indicator	Rank	Score	
C. Governance pillar	58	60.00	
1st sub-pillar: Trust	54	54.61	
3.1.1 Secure Internet servers	43	72.61	
3.1.2 Cybersecurity	85	65.33	
3.1.3 Online access to financial account	57	32.53	
3.1.4 Internet shopping	45	47.97	
2nd sub-pillar: Regulation	78	62.25	
3.2.1 Regulatory quality	85	43.32	
3.2.2 ICT regulatory environment	85	75.29	
3.2.3 Regulation of emerging technologies	80	34.55	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	83	58.09	
3rd sub-pillar: Inclusion	60	63.15	
3.3.1 E-Participation	57	59.31	
3.3.2 Socioeconomic gap in use of digital payments	42	87.08	
3.3.3 Availability of local online content	75	54.33	

Indicator	Rank	Score	
1.3.3 Robot density	55	0.11	○
1.3.4 Computer software spending	4	65.69	●
B. People pillar	25	57.07	
1st sub-pillar: Individuals	2	74.99	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	16	76.30	●
2.1.3 Use of virtual social networks	46	69.70	
2.1.4 Tertiary enrollment	21	53.96	●
2.1.5 Adult literacy rate	1	100.00	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	53	48.79	
2.2.1 Firms with website	43	62.85	
2.2.2 GERD financed by business enterprise	57	37.74	
2.2.3 Knowledge intensive employment	35	57.24	
2.2.4 Annual investment in telecommunication services	56	79.10	
2.2.5 GERD performed by business enterprise	48	7.04	
3rd sub-pillar: Governments	43	47.43	
2.3.1 Government online services	34	79.53	
2.3.2 Publication and use of open data	23	57.35	●
2.3.3 Government promotion of investment in emerging tech	45	47.72	
2.3.4 R&D expenditure by governments and higher education	78	5.12	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	82	61.08	
3.3.5 Rural gap in use of digital payments	83	53.97	
D. Impact pillar	54	55.72	
1st sub-pillar: Economy	35	38.30	
4.1.1 High-tech and medium-high-tech manufacturing	64	22.13	
4.1.2 High-tech exports	80	7.93	
4.1.3 PCT patent applications	44	8.53	
4.1.4 Domestic market size	43	61.79	
4.1.5 Prevalence of gig economy	36	57.85	
4.1.6 ICT services exports	6	71.57	●
2nd sub-pillar: Quality of Life	59	69.83	
4.2.1 Happiness	98	42.50	○
4.2.2 Freedom to make life choices	63	75.64	
4.2.3 Income inequality	3	93.97	●
4.2.4 Healthy life expectancy at birth	83	67.21	
3rd sub-pillar: SDG Contribution	86	59.03	
4.3.1 SDG 3: Good Health and Well-Being	55	73.18	
4.3.2 SDG 4: Quality Education	39	52.50	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	118	45.74	○
4.3.5 SDG 11: Sustainable Cities and Communities	104	44.97	○

NOTE: ● a strength and ○ a weakness.

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United Arab Emirates

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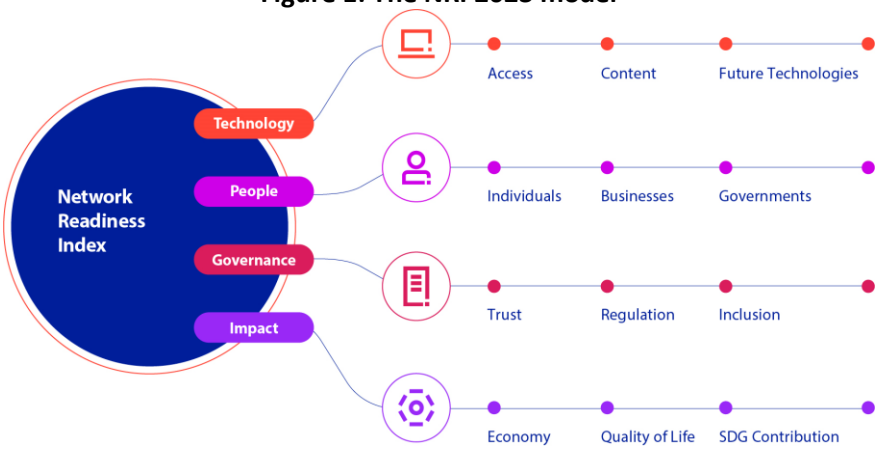
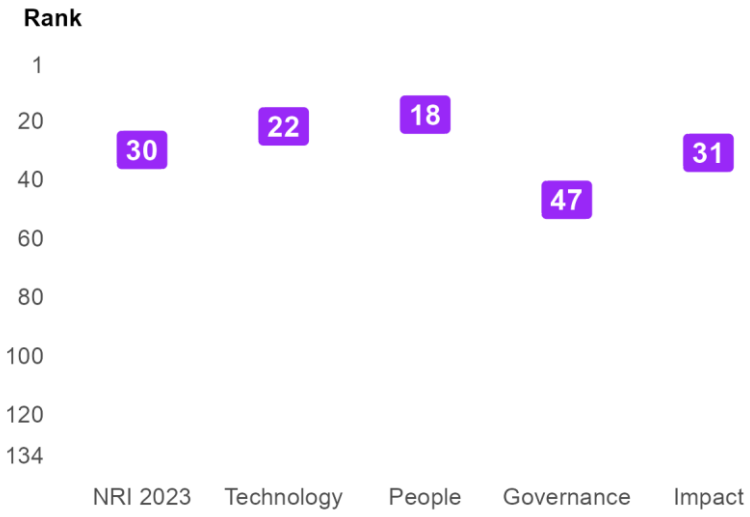
Figure 1: The NRI 2023 model



Global NRI position of United Arab Emirates

United Arab Emirates ranks 30th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: United Arab Emirates global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United Arab Emirates relate to Access, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the SDG Contribution, Content and Regulation sub-pillars.

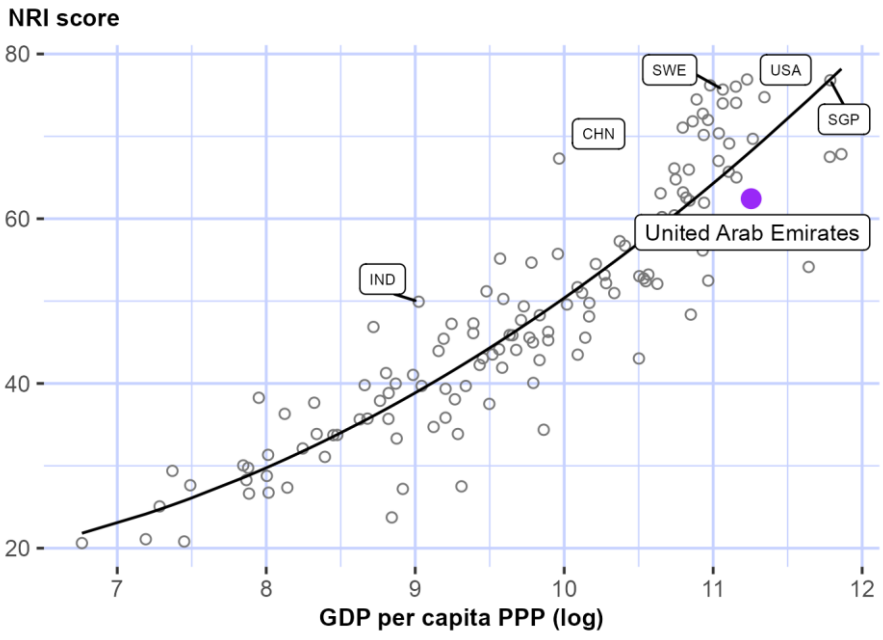
Table 1: United Arab Emirates rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Access	3	Inclusion	31
Individuals	7	Economy	37
Quality of Life	13	Trust	46
Future Technologies	14	SDG Contribution	48
Governments	25	Content	57
Businesses	26	Regulation	74

NRI score and income

Figure 3 shows the position of United Arab Emirates in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United Arab Emirates is well below the trend line, which suggests that it is underachieving and that one would expect it could raise its network readiness in view of its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). United Arab Emirates belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Arab States-is United Arab Emirates (ARE).

Performance against its income group and region

High-income countries

United Arab Emirates is ranked 29th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in two of the four pillars: Technology and People. At the sub-pillar level, it outperforms high-income countries in five of the twelve sub-pillars: Access, Future Technologies, Individuals, Businesses and Quality of Life.

Arab States

United Arab Emirates is ranked 1st within Arab States (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of United Arab Emirates against its income group and region, overall and by pillar

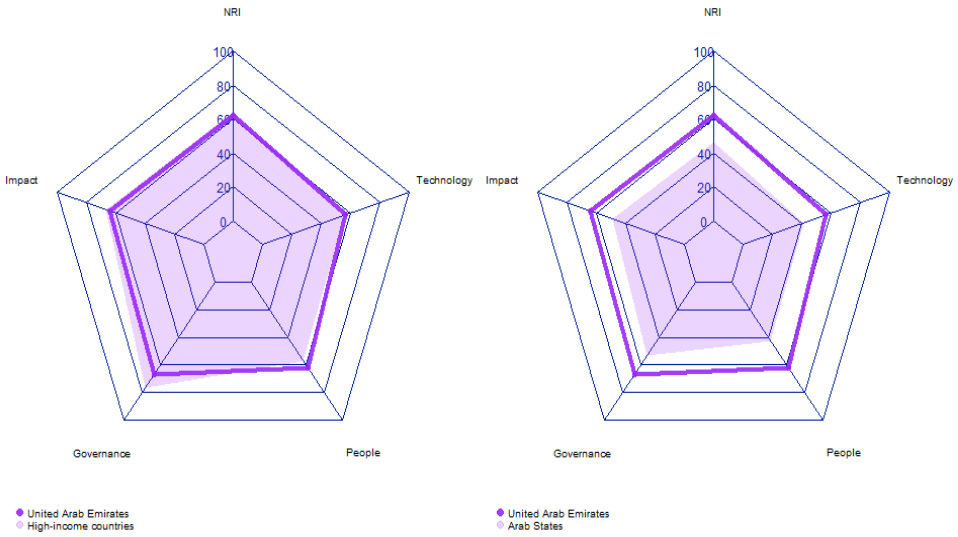


Table 2: United Arab Emirates scores vs. averages of its income group and region, overall and by pillar

Dimension	United Arab Emirates	High-income countries	Arab States
NRI	62.43	64.07	46.59
Technology	56.61	55.76	41.17
People	62.20	56.99	42.66
Governance	66.63	76.81	53.45
Impact	64.26	66.73	49.08

Strongest and weakest indicators

The indicators where United Arab Emirates performs particularly well include 1.1.4 Population covered by at least a 3G mobile network, 1.1.6 Internet access in schools, and 2.1.3 Use of virtual social networks (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.3.5 Rural gap in use of digital payments, and 3.2.4 E-commerce legislation.

Table 3: Highlight of Strengths and Opportunities for United Arab Emirates

Strongest indicators	Rank	Weakest indicators	Rank
1.1.4 Population covered by at least a 3G mobile network	1	4.3.2 SDG 4: Quality Education	46
1.1.6 Internet access in schools	1	2.3.2 Publication and use of open data	65
2.1.3 Use of virtual social networks	1	3.2.4 E-commerce legislation	87
2.3.3 Government promotion of investment in emerging technologies	4	3.3.5 Rural gap in use of digital payments	89
1.1.2 Handset prices	5	3.2.5 Privacy protection by law content	131
2.2.2 GERD financed by business enterprise	5		
4.2.3 Income inequality	5		
2.1.2 ICT skills in the education system	6		
1.1.1 Mobile tariffs	7		
3.1.2 Cybersecurity	8		
3.2.3 Regulation of emerging technologies	9		
4.2.2 Freedom to make life choices	10		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: United Arab Emirates

Network Readiness Index Rank: 30 (out of 134) Score: 62.43

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	22	56.61	C. Governance pillar	47	66.63
1st sub-pillar: Access	3	84.41	1st sub-pillar: Trust	46	61.08
2nd sub-pillar: Content	57	25.29	2nd sub-pillar: Regulation	74	62.99
3rd sub-pillar: Future Technologies	14	60.14	3rd sub-pillar: Inclusion	31	75.82
B. People pillar	18	62.20	D. Impact pillar	31	64.26
1st sub-pillar: Individuals	7	67.82	1st sub-pillar: Economy	37	36.39
2nd sub-pillar: Businesses	26	62.49	2nd sub-pillar: Quality of Life	13	85.05
3rd sub-pillar: Governments	25	56.30	3rd sub-pillar: SDG Contribution	48	71.34

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	22	56.61		**C. Governance pillar**	47	66.63	
1st sub-pillar: Access	3	84.41		*1st sub-pillar: Trust*	46	61.08	
1.1.1 Mobile tariffs	7	91.70	●	3.1.1 Secure Internet servers	60	58.34	
1.1.2 Handset prices	5	91.79	●	3.1.2 Cybersecurity	8	98.03	●
1.1.3 FTTH/building Internet subscriptions	39	38.60		3.1.3 Online access to financial account	23	59.16	
1.1.4 Population covered by at least a 3G mobile network	1	100.00	●	3.1.4 Internet shopping	59	28.78	
1.1.5 International Internet bandwidth	15	84.34		*2nd sub-pillar: Regulation*	74	62.99	
1.1.6 Internet access in schools	1	100.00	●	3.2.1 Regulatory quality	30	72.50	
2nd sub-pillar: Content	57	25.29		3.2.2 ICT regulatory environment	74	80.00	
1.2.1 GitHub commits	53	11.02		3.2.3 Regulation of emerging technologies	9	82.08	●
1.2.2 Internet domain registrations	42	10.55		3.2.4 E-commerce legislation	87	66.67	○
1.2.3 Mobile apps development	15	76.85		3.2.5 Privacy protection by law content	131	13.70	○
1.2.4 AI scientific publications	79	2.76		*3rd sub-pillar: Inclusion*	31	75.82	
3rd sub-pillar: Future Technologies	14	60.14		3.3.1 E-Participation	18	77.91	
1.3.1 Adoption of emerging technologies	17	78.00		3.3.2 Socioeconomic gap in use of digital payments	32	91.47	
1.3.2 Investment in emerging technologies	10	79.50		3.3.3 Availability of local online content	21	85.82	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	60	22.93	
B. People pillar	18	62.20	
1st sub-pillar: Individuals	7	67.82	
2.1.1 Mobile broadband internet traffic within the country	36	21.21	
2.1.2 ICT skills in the education system	6	84.93	●
2.1.3 Use of virtual social networks	1	100.00	●
2.1.4 Tertiary enrollment	60	35.49	
2.1.5 Adult literacy rate	29	97.44	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	26	62.49	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	5	91.89	●
2.2.3 Knowledge intensive employment	41	52.74	
2.2.4 Annual investment in telecommunication services	28	85.04	
2.2.5 GERD performed by business enterprise	33	20.28	
3rd sub-pillar: Governments	25	56.30	
2.3.1 Government online services	12	89.10	
2.3.2 Publication and use of open data	65	25.00	○
2.3.3 Government promotion of investment in emerging tech	4	84.34	●
2.3.4 R&D expenditure by governments and higher education	26	26.77	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	26	71.55	
3.3.5 Rural gap in use of digital payments	89	52.36	○
D. Impact pillar	31	64.26	
1st sub-pillar: Economy	37	36.39	
4.1.1 High-tech and medium-high-tech manufacturing	41	35.76	
4.1.2 High-tech exports	56	16.00	
4.1.3 PCT patent applications	54	5.27	
4.1.4 Domestic market size	33	64.96	
4.1.5 Prevalence of gig economy	11	79.94	
4.1.6 ICT services exports	59	16.43	
2nd sub-pillar: Quality of Life	13	85.05	
4.2.1 Happiness	20	81.56	
4.2.2 Freedom to make life choices	10	92.83	●
4.2.3 Income inequality	5	92.96	●
4.2.4 Healthy life expectancy at birth	65	72.86	
3rd sub-pillar: SDG Contribution	48	71.34	
4.3.1 SDG 3: Good Health and Well-Being	39	81.16	
4.3.2 SDG 4: Quality Education	46	40.56	○
4.3.3 SDG 5: Women's economic opportunity	71	75.22	
4.3.4 SDG 7: Affordable and Clean Energy	80	68.28	
4.3.5 SDG 11: Sustainable Cities and Communities	19	91.50	

NOTE: ● a strength and ○ a weakness.

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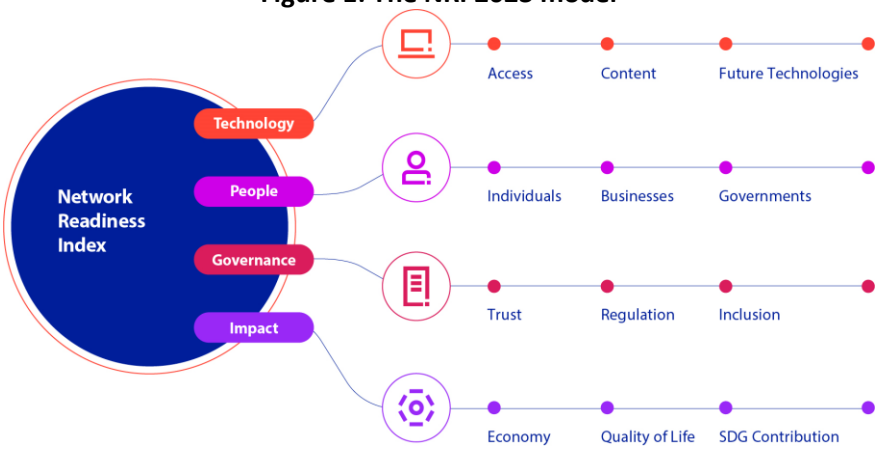
United Kingdom

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

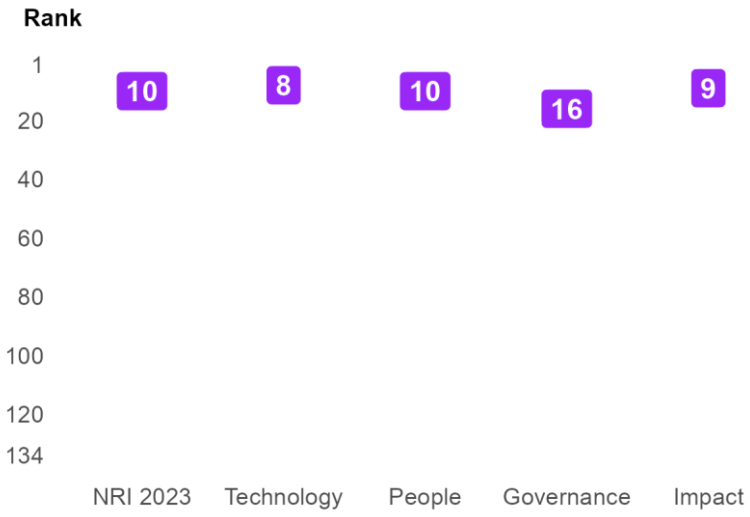
Figure 1: The NRI 2023 model



Global NRI position of United Kingdom

United Kingdom ranks 10th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: United Kingdom global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United Kingdom relate to SDG Contribution, Inclusion and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Quality of Life, Regulation and Individuals sub-pillars.

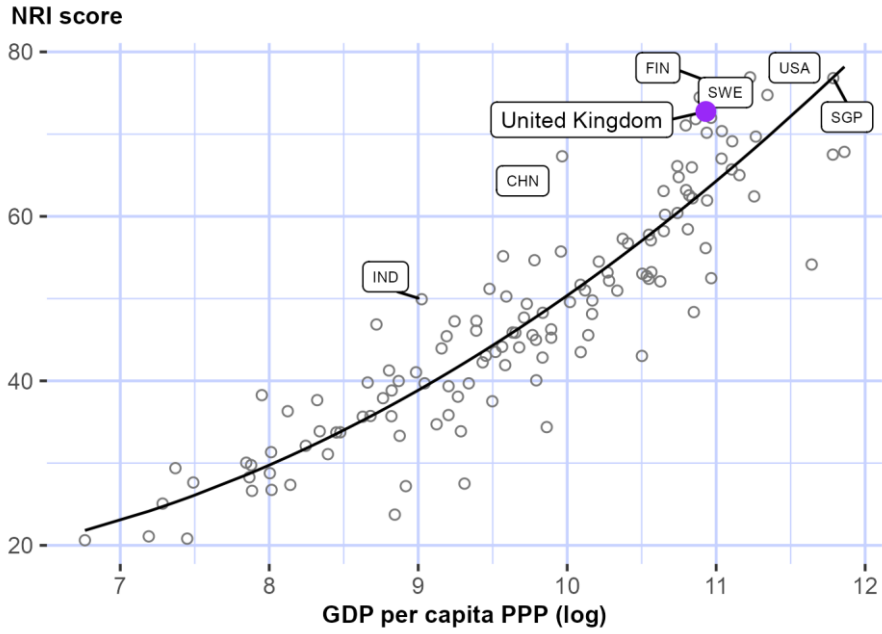
Table 1: United Kingdom rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	2	Businesses	13
Inclusion	4	Access	15
Governments	5	Trust	18
Content	6	Quality of Life	21
Future Technologies	11	Regulation	26
Economy	11	Individuals	48

NRI score and income

Figure 3 shows the position of United Kingdom in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United Kingdom is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). United Kingdom belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-Europe-is Finland (FIN).

Performance against its income group and region

High-income countries

United Kingdom is ranked 10th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Europe

United Kingdom is ranked 7th within Europe (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it has a higher score than the regional average in each of the twelve sub-pillars.

Figure 4: Performance of United Kingdom against its income group and region, overall and by pillar

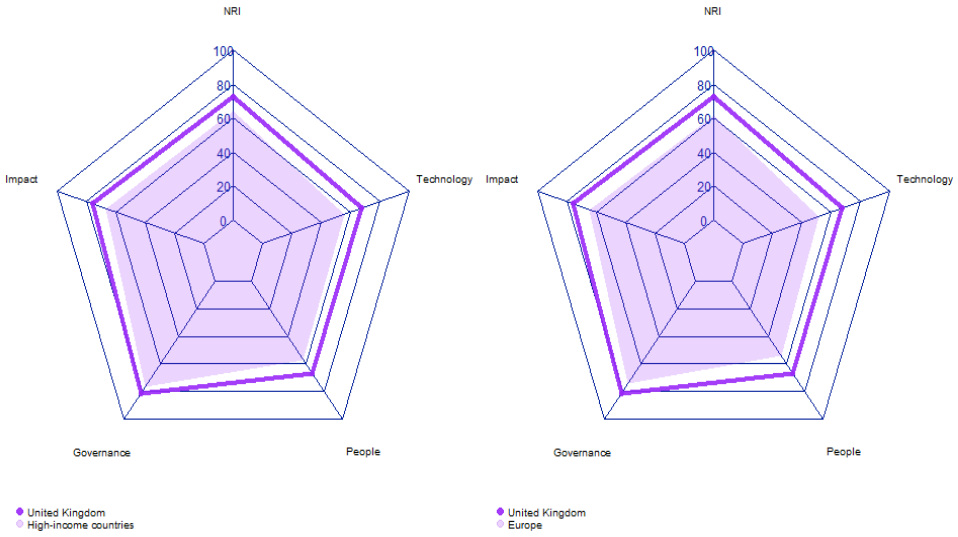


Table 2: United Kingdom scores vs. averages of its income group and region, overall and by pillar

Dimension	United Kingdom	High-income countries	Europe
NRI	72.75	64.07	61.25
Technology	67.25	55.76	51.90
People	66.63	56.99	54.16
Governance	81.63	76.81	74.33
Impact	75.50	66.73	64.61

Strongest and weakest indicators

The indicators where United Kingdom performs particularly well include 2.3.2 Publication and use of open data, 3.2.4 E-commerce legislation, and 1.3.4 Computer software spending (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 1.1.3 FTTH/building Internet subscriptions, and 2.1.6 AI talent concentration.

Table 3: Highlight of Strengths and Opportunities for United Kingdom

Strongest indicators	Rank	Weakest indicators	Rank
2.3.2 Publication and use of open data	1	1.3.3 Robot density	24
3.2.4 E-commerce legislation	1	2.1.6 AI talent concentration	26
1.3.4 Computer software spending	2	1.1.3 FTTH/building Internet subscriptions	45
3.1.2 Cybersecurity	2	3.2.5 Privacy protection by law content	85
4.3.1 SDG 3: Good Health and Well-Being	2		
4.1.5 Prevalence of gig economy	4		
3.3.2 Socioeconomic gap in use of digital payments	5		
3.3.1 E-Participation	6		
1.1.5 International Internet bandwidth	7		
1.2.4 AI scientific publications	7		
3.2.2 ICT regulatory environment	7		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: United Kingdom

Network Readiness Index Rank: 10 (out of 134) Score: 72.75

Pillar/sub-pillar	Rank	Score
A. Technology pillar	8	67.25
1st sub-pillar: Access	15	78.11
2nd sub-pillar: Content	6	61.41
3rd sub-pillar: Future Technologies	11	62.24
B. People pillar	10	66.63
1st sub-pillar: Individuals	48	51.45
2nd sub-pillar: Businesses	13	71.84
3rd sub-pillar: Governments	5	76.61

Pillar/sub-pillar	Rank	Score
C. Governance pillar	16	81.63
1st sub-pillar: Trust	18	78.34
2nd sub-pillar: Regulation	26	80.19
3rd sub-pillar: Inclusion	4	86.37
D. Impact pillar	9	75.50
1st sub-pillar: Economy	11	57.62
2nd sub-pillar: Quality of Life	21	81.17
3rd sub-pillar: SDG Contribution	2	87.70

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	8	67.25	
1st sub-pillar: Access	15	78.11	
1.1.1 Mobile tariffs	22	82.60	
1.1.2 Handset prices	11	81.60	
1.1.3 FTTH/building Internet subscriptions	45	36.22	○
1.1.4 Population covered by at least a 3G mobile network	28	99.97	
1.1.5 International Internet bandwidth	7	90.14	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	6	61.41	
1.2.1 GitHub commits	20	54.39	
1.2.2 Internet domain registrations	9	72.26	
1.2.3 Mobile apps development	24	75.51	
1.2.4 AI scientific publications	7	43.46	●
3rd sub-pillar: Future Technologies	11	62.24	
1.3.1 Adoption of emerging technologies	12	84.23	
1.3.2 Investment in emerging technologies	8	82.25	

Indicator	Rank	Score	
C. Governance pillar	16	81.63	
1st sub-pillar: Trust	18	78.34	
3.1.1 Secure Internet servers	20	83.82	
3.1.2 Cybersecurity	2	99.53	●
3.1.3 Online access to financial account	27	55.84	
3.1.4 Internet shopping	19	74.18	
2nd sub-pillar: Regulation	26	80.19	
3.2.1 Regulatory quality	17	82.71	
3.2.2 ICT regulatory environment	7	95.88	●
3.2.3 Regulation of emerging technologies	29	66.75	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	85	55.60	○
3rd sub-pillar: Inclusion	4	86.37	
3.3.1 E-Participation	6	95.34	●
3.3.2 Socioeconomic gap in use of digital payments	5	99.42	●
3.3.3 Availability of local online content	12	90.87	

Indicator	Rank	Score	
1.3.3 Robot density	24	13.33	○
1.3.4 Computer software spending	2	69.12	●
B. People pillar	10	66.63	
1st sub-pillar: Individuals	48	51.45	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	36	64.56	
2.1.3 Use of virtual social networks	16	79.86	
2.1.4 Tertiary enrollment	37	45.06	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	26	16.31	○
2nd sub-pillar: Businesses	13	71.84	
2.2.1 Firms with website	10	85.36	
2.2.2 GERD financed by business enterprise	17	71.11	
2.2.3 Knowledge intensive employment	11	77.88	
2.2.4 Annual investment in telecommunication services	NA	NA	
2.2.5 GERD performed by business enterprise	10	52.98	
3rd sub-pillar: Governments	5	76.61	
2.3.1 Government online services	17	87.39	
2.3.2 Publication and use of open data	1	100.00	●
2.3.3 Government promotion of investment in emerging tech	22	66.45	
2.3.4 R&D expenditure by governments and higher education	11	52.61	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	38	70.16	
3.3.5 Rural gap in use of digital payments	19	76.06	
D. Impact pillar	9	75.50	
1st sub-pillar: Economy	11	57.62	
4.1.1 High-tech and medium-high-tech manufacturing	22	53.52	
4.1.2 High-tech exports	15	43.03	
4.1.3 PCT patent applications	20	40.22	
4.1.4 Domestic market size	9	79.87	
4.1.5 Prevalence of gig economy	4	89.24	●
4.1.6 ICT services exports	19	39.84	
2nd sub-pillar: Quality of Life	21	81.17	
4.2.1 Happiness	22	81.27	
4.2.2 Freedom to make life choices	45	80.30	
4.2.3 Income inequality	34	76.38	
4.2.4 Healthy life expectancy at birth	28	86.74	
3rd sub-pillar: SDG Contribution	2	87.70	
4.3.1 SDG 3: Good Health and Well-Being	2	97.31	●
4.3.2 SDG 4: Quality Education	12	69.14	
4.3.3 SDG 5: Women's economic opportunity	15	96.46	
4.3.4 SDG 7: Affordable and Clean Energy	14	82.80	
4.3.5 SDG 11: Sustainable Cities and Communities	16	92.78	

NOTE: ● a strength and ○ a weakness.

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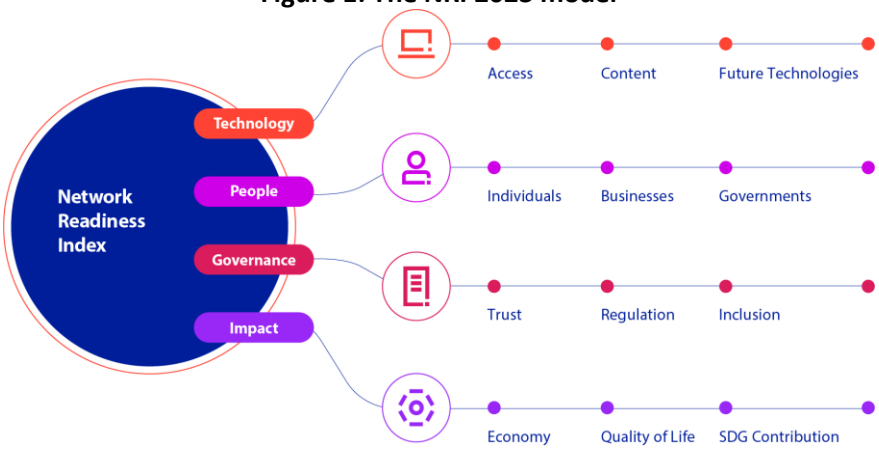
United States

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

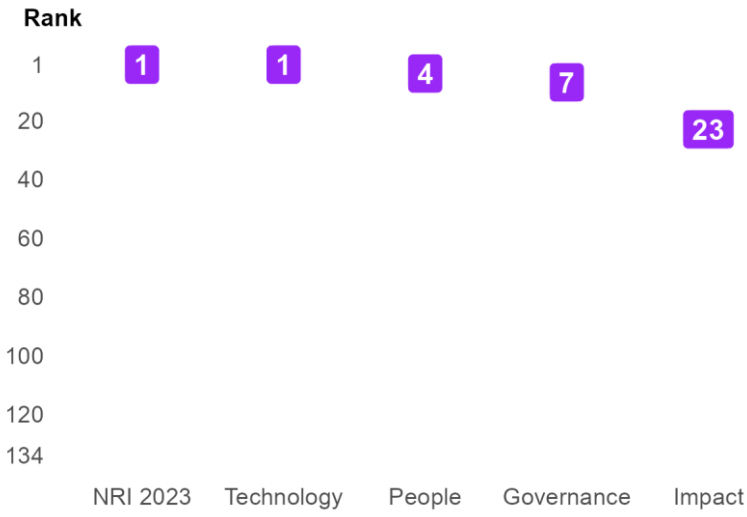
Figure 1: The NRI 2023 model



Global NRI position of United States

United States ranks 1st out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: United States global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of United States relate to Future Technologies, Content and Businesses, among others (Table 1). More could be done, though, to improve the economy's performances in the Individuals, SDG Contribution and Quality of Life sub-pillars.

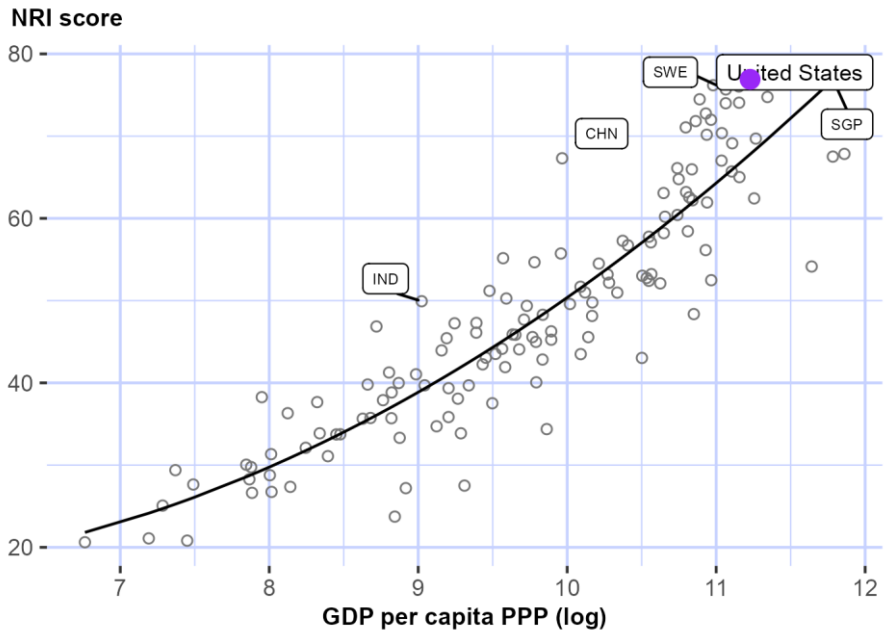
Table 1: United States rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Future Technologies	1	Inclusion	10
Content	2	Economy	10
Businesses	3	Regulation	16
Governments	3	Individuals	21
Trust	4	SDG Contribution	29
Access	7	Quality of Life	66

NRI score and income

Figure 3 shows the position of United States in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, United States is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). United States belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

United States is ranked 1st in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

The Americas

United States is ranked 1st within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Businesses, Governments, Trust, Regulation, Inclusion, Economy and SDG Contribution.

Figure 4: Performance of United States against its income group and region, overall and by pillar

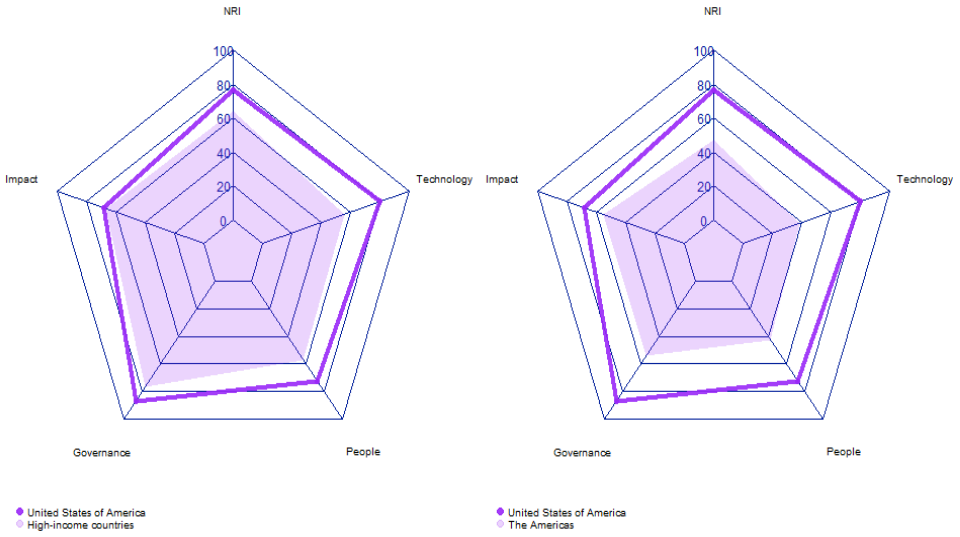


Table 2: United States scores vs. averages of its income group and region, overall and by pillar

Dimension	United States	High-income countries	The Americas
NRI	76.91	64.07	47.41
Technology	79.64	55.76	38.24
People	72.53	56.99	42.35
Governance	87.02	76.81	54.12
Impact	68.44	66.73	54.93

Strongest and weakest indicators

The indicators where United States performs particularly well include 1.3.2 Investment in emerging technologies, 1.3.4 Computer software spending, and 2.2.4 Annual investment in telecommunication services (Table 3). By contrast, the economy's weakest indicators include 4.2.2 Freedom to make life choices, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.2.3 Income inequality.

Table 3: Highlight of Strengths and Opportunities for United States

Strongest indicators	Rank	Weakest indicators	Rank
1.3.2 Investment in emerging technologies	1	4.2.4 Healthy life expectancy at birth	64
1.3.4 Computer software spending	1	4.2.3 Income inequality	77
2.2.4 Annual investment in telecommunication services	1	4.3.4 SDG 7: Affordable and Clean Energy	89
3.1.2 Cybersecurity	1	4.2.2 Freedom to make life choices	96
3.2.4 E-commerce legislation	1		
1.3.1 Adoption of emerging technologies	2		
3.1.1 Secure Internet servers	2		
4.1.4 Domestic market size	2		
4.1.5 Prevalence of gig economy	2		
1.2.4 AI scientific publications	3		
2.2.5 GERD performed by business enterprise	3		
2.3.4 R&D expenditure by governments and higher education	3		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: United States

Network Readiness Index

Rank: 1 (out of 134) Score: 76.91

Pillar/sub-pillar	Rank	Score	Pillar/sub-pillar	Rank	Score
A. Technology pillar	1	79.64	C. Governance pillar	7	87.02
1st sub-pillar: Access	7	80.95	1st sub-pillar: Trust	4	91.30
2nd sub-pillar: Content	2	73.30	2nd sub-pillar: Regulation	16	85.54
3rd sub-pillar: Future Technologies	1	84.67	3rd sub-pillar: Inclusion	10	84.21
B. People pillar	4	72.53	D. Impact pillar	23	68.44
1st sub-pillar: Individuals	21	57.68	1st sub-pillar: Economy	10	58.69
2nd sub-pillar: Businesses	3	81.06	2nd sub-pillar: Quality of Life	66	68.16
3rd sub-pillar: Governments	3	78.85	3rd sub-pillar: SDG Contribution	29	78.47

The Network Readiness Index in detail

Indicator	Rank	Score		Indicator	Rank	Score	
A. Technology pillar	1	79.64		**C. Governance pillar**	7	87.02	
1st sub-pillar: Access	7	80.95		*1st sub-pillar: Trust*	4	91.30	
1.1.1 Mobile tariffs	35	76.87		3.1.1 Secure Internet servers	2	94.60	•
1.1.2 Handset prices	18	78.50		3.1.2 Cybersecurity	1	100.00	•
1.1.3 FTTH/building Internet subscriptions	14	58.47		3.1.3 Online access to financial account	7	84.40	
1.1.4 Population covered by at least a 3G mobile network	28	99.97		3.1.4 Internet shopping	9	86.19	
1.1.5 International Internet bandwidth	6	90.92		*2nd sub-pillar: Regulation*	16	85.54	
1.1.6 Internet access in schools	NA	NA		3.2.1 Regulatory quality	18	82.40	
2nd sub-pillar: Content	2	73.30		3.2.2 ICT regulatory environment	31	90.00	
1.2.1 GitHub commits	7	78.60		3.2.3 Regulation of emerging technologies	6	88.31	
1.2.2 Internet domain registrations	8	73.48		3.2.4 E-commerce legislation	1	100.00	•
1.2.3 Mobile apps development	23	75.52		3.2.5 Privacy protection by law content	61	66.98	
1.2.4 AI scientific publications	3	65.61	•	*3rd sub-pillar: Inclusion*	10	84.21	
3rd sub-pillar: Future Technologies	1	84.67		3.3.1 E-Participation	10	90.70	
1.3.1 Adoption of emerging technologies	2	99.75	•	3.3.2 Socioeconomic gap in use of digital payments	36	89.92	
1.3.2 Investment in emerging technologies	1	100.00	•	3.3.3 Availability of local online content	7	93.51	

Indicator	Rank	Score	
1.3.3 Robot density	9	38.92	
1.3.4 Computer software spending	1	100.00	●
B. People pillar	4	72.53	
1st sub-pillar: Individuals	21	57.68	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	13	81.85	
2.1.3 Use of virtual social networks	57	68.23	
2.1.4 Tertiary enrollment	14	57.27	
2.1.5 Adult literacy rate	NA	NA	
2.1.6 AI talent concentration	17	23.39	
2nd sub-pillar: Businesses	3	81.06	
2.2.1 Firms with website	28	73.19	
2.2.2 GERD financed by business enterprise	6	84.00	
2.2.3 Knowledge intensive employment	9	79.35	
2.2.4 Annual investment in telecommunication services	1	100.00	●
2.2.5 GERD performed by business enterprise	3	68.77	●
3rd sub-pillar: Governments	3	78.85	
2.3.1 Government online services	9	92.31	
2.3.2 Publication and use of open data	9	82.35	
2.3.3 Government promotion of investment in emerging tech	8	78.58	
2.3.4 R&D expenditure by governments and higher education	3	62.14	●

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	21	73.04	
3.3.5 Rural gap in use of digital payments	34	73.90	
D. Impact pillar	23	68.44	
1st sub-pillar: Economy	10	58.69	
4.1.1 High-tech and medium-high-tech manufacturing	24	52.82	
4.1.2 High-tech exports	24	35.84	
4.1.3 PCT patent applications	13	53.23	
4.1.4 Domestic market size	2	98.22	●
4.1.5 Prevalence of gig economy	2	95.35	●
4.1.6 ICT services exports	57	16.68	
2nd sub-pillar: Quality of Life	66	68.16	
4.2.1 Happiness	23	80.73	
4.2.2 Freedom to make life choices	96	60.10	○
4.2.3 Income inequality	77	58.54	○
4.2.4 Healthy life expectancy at birth	64	73.28	○
3rd sub-pillar: SDG Contribution	29	78.47	
4.3.1 SDG 3: Good Health and Well-Being	25	88.96	
4.3.2 SDG 4: Quality Education	24	65.82	
4.3.3 SDG 5: Women's economic opportunity	36	87.61	
4.3.4 SDG 7: Affordable and Clean Energy	89	66.33	○
4.3.5 SDG 11: Sustainable Cities and Communities	31	83.60	

NOTE: ● a strength and ○ a weakness.

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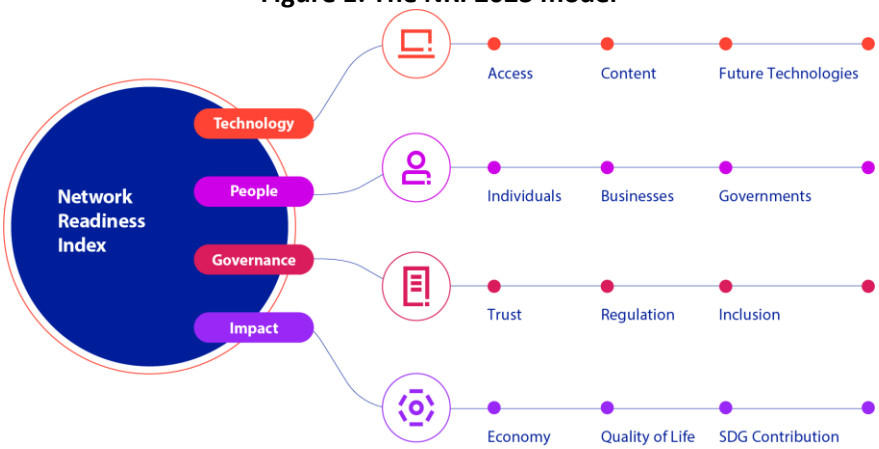
Uruguay

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

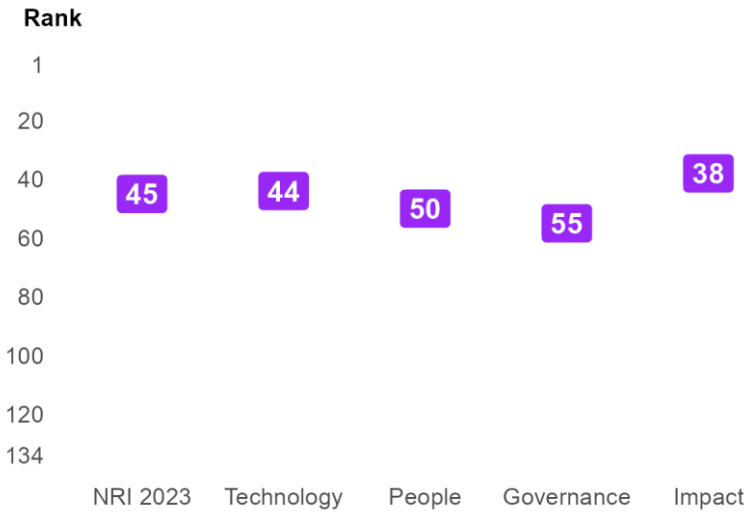
Figure 1: The NRI 2023 model



Global NRI position of Uruguay

Uruguay ranks 45th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Uruguay global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Uruguay relate to Individuals, Content and Governments, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Inclusion and Businesses sub-pillars.

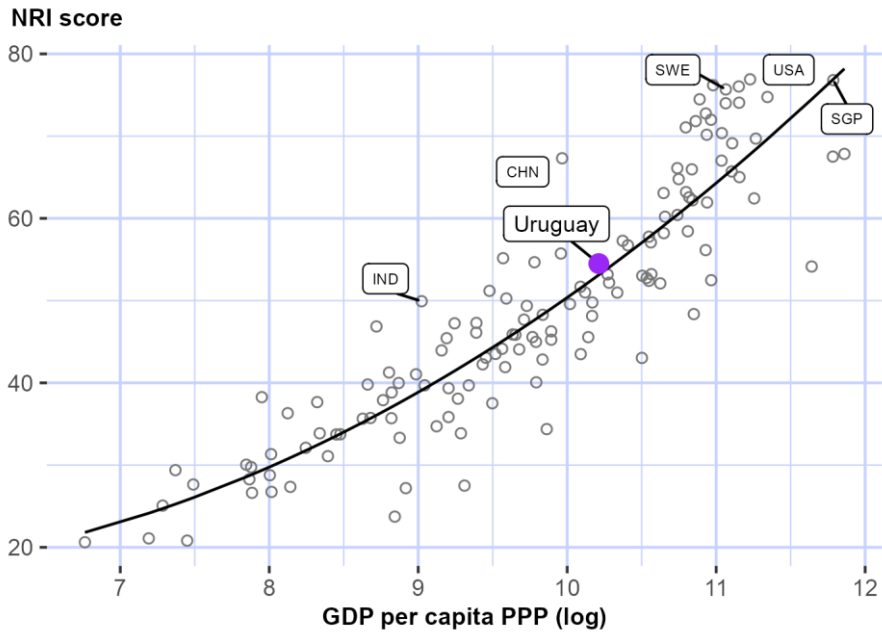
Table 1: Uruguay rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	25	SDG Contribution	45
Content	32	Economy	49
Governments	36	Trust	58
Regulation	36	Future Technologies	64
Access	40	Inclusion	71
Quality of Life	44	Businesses	86

NRI score and income

Figure 3 shows the position of Uruguay in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Uruguay is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Uruguay belongs to the group of high-income countries, where the best performer is United States of America (USA). The top performer of its region-The Americas-is also United States of America (USA).

Performance against its income group and region

High-income countries

Uruguay is ranked 39th in the group of high-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms high-income countries in one of the twelve sub-pillars: Individuals.

The Americas

Uruguay is ranked 4th within The Americas (Figure 4, right panel). It outperforms its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in eleven of the twelve sub-pillars: Access, Content, Future Technologies, Individuals, Governments, Trust, Regulation, Inclusion, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Uruguay against its income group and region, overall and by pillar

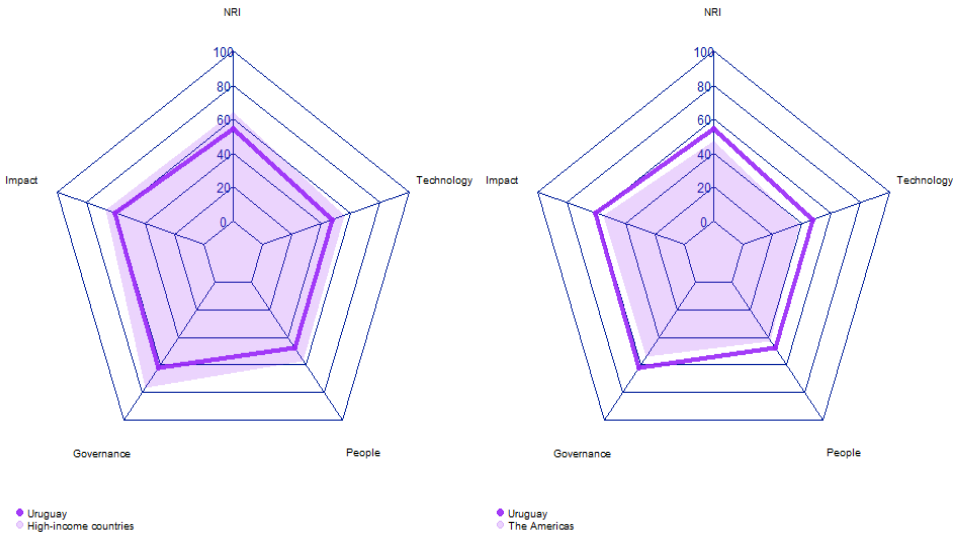


Table 2: Uruguay scores vs. averages of its income group and region, overall and by pillar

Dimension	Uruguay	High-income countries	The Americas
NRI	54.50	64.07	47.41
Technology	47.80	55.76	38.24
People	47.80	56.99	42.35
Governance	62.12	76.81	54.12
Impact	60.29	66.73	54.93

Strongest and weakest indicators

The indicators where Uruguay performs particularly well include 3.2.4 E-commerce legislation, 4.1.6 ICT services exports, and 3.3.4 Gender gap in Internet use (Table 3). By contrast, the economy's weakest indicators include 1.3.2 Investment in emerging technologies, 3.3.5 Rural gap in use of digital payments, and 1.2.4 AI scientific publications.

Table 3: Highlight of Strengths and Opportunities for Uruguay

Strongest indicators	Rank
3.2.4 E-commerce legislation	1
4.1.6 ICT services exports	7
3.3.4 Gender gap in Internet use	10
1.2.1 GitHub commits	11
2.3.2 Publication and use of open data	14
2.1.5 Adult literacy rate	24
4.2.1 Happiness	24
2.1.3 Use of virtual social networks	25
3.2.5 Privacy protection by law content	28
4.3.1 SDG 3: Good Health and Well-Being	32
4.3.4 SDG 7: Affordable and Clean Energy	33

Weakest indicators	Rank
2.2.2 GERD financed by business enterprise	81
4.1.5 Prevalence of gig economy	97
1.2.4 AI scientific publications	100
1.3.2 Investment in emerging technologies	106
3.3.5 Rural gap in use of digital payments	106

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Uruguay

Network Readiness Index Rank: 45 (out of 134) Score: 54.50

Pillar/sub-pillar	Rank	Score
A. Technology pillar	44	47.80
1st sub-pillar: Access	40	72.06
2nd sub-pillar: Content	32	38.83
3rd sub-pillar: Future Technologies	64	32.51
B. People pillar	50	47.80
1st sub-pillar: Individuals	25	56.51
2nd sub-pillar: Businesses	86	37.89
3rd sub-pillar: Governments	36	48.99

Pillar/sub-pillar	Rank	Score
C. Governance pillar	55	62.12
1st sub-pillar: Trust	58	49.78
2nd sub-pillar: Regulation	36	76.57
3rd sub-pillar: Inclusion	71	60.03
D. Impact pillar	38	60.29
1st sub-pillar: Economy	49	34.28
2nd sub-pillar: Quality of Life	44	74.46
3rd sub-pillar: SDG Contribution	45	72.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	44	47.80	
1st sub-pillar: Access	40	72.06	
1.1.1 Mobile tariffs	41	74.22	
1.1.2 Handset prices	49	58.42	
1.1.3 FTTH/building Internet subscriptions	48	35.71	
1.1.4 Population covered by at least a 3G mobile network	92	98.45	
1.1.5 International Internet bandwidth	97	65.69	
1.1.6 Internet access in schools	27	99.88	
2nd sub-pillar: Content	32	38.83	
1.2.1 GitHub commits	11	72.35	●
1.2.2 Internet domain registrations	44	10.44	
1.2.3 Mobile apps development	47	71.39	
1.2.4 AI scientific publications	100	1.16	○
3rd sub-pillar: Future Technologies	64	32.51	
1.3.1 Adoption of emerging technologies	54	51.47	
1.3.2 Investment in emerging technologies	106	27.00	○

Indicator	Rank	Score	
C. Governance pillar	55	62.12	
1st sub-pillar: Trust	58	49.78	
3.1.1 Secure Internet servers	56	60.44	
3.1.2 Cybersecurity	72	74.71	
3.1.3 Online access to financial account	67	27.88	
3.1.4 Internet shopping	54	36.09	
2nd sub-pillar: Regulation	36	76.57	
3.2.1 Regulatory quality	41	65.92	
3.2.2 ICT regulatory environment	92	70.00	
3.2.3 Regulation of emerging technologies	30	65.45	
3.2.4 E-commerce legislation	1	100.00	●
3.2.5 Privacy protection by law content	28	81.46	●
3rd sub-pillar: Inclusion	71	60.03	
3.3.1 E-Participation	61	58.14	
3.3.2 Socioeconomic gap in use of digital payments	75	69.00	
3.3.3 Availability of local online content	62	61.78	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	71	19.07	
B. People pillar	50	47.80	
1st sub-pillar: Individuals	25	56.51	
2.1.1 Mobile broadband internet traffic within the country	74	7.35	
2.1.2 ICT skills in the education system	51	55.57	
2.1.3 Use of virtual social networks	25	77.32	●
2.1.4 Tertiary enrollment	45	43.98	
2.1.5 Adult literacy rate	24	98.32	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	86	37.89	
2.2.1 Firms with website	37	68.85	
2.2.2 GERD financed by business enterprise	81	5.20	○
2.2.3 Knowledge intensive employment	53	35.82	
2.2.4 Annual investment in telecommunication services	77	76.34	
2.2.5 GERD performed by business enterprise	58	3.24	
3rd sub-pillar: Governments	36	48.99	
2.3.1 Government online services	52	73.93	
2.3.2 Publication and use of open data	14	70.59	●
2.3.3 Government promotion of investment in emerging tech	52	43.54	
2.3.4 R&D expenditure by governments and higher education	64	7.88	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	10	75.45	●
3.3.5 Rural gap in use of digital payments	106	35.76	○
D. Impact pillar	38	60.29	
1st sub-pillar: Economy	49	34.28	
4.1.1 High-tech and medium-high-tech manufacturing	76	17.10	
4.1.2 High-tech exports	48	17.45	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	89	43.96	
4.1.5 Prevalence of gig economy	97	27.62	○
4.1.6 ICT services exports	7	65.28	●
2nd sub-pillar: Quality of Life	44	74.46	
4.2.1 Happiness	24	80.32	●
4.2.2 Freedom to make life choices	35	83.78	
4.2.3 Income inequality	82	55.78	
4.2.4 Healthy life expectancy at birth	46	77.94	
3rd sub-pillar: SDG Contribution	45	72.12	
4.3.1 SDG 3: Good Health and Well-Being	32	83.62	●
4.3.2 SDG 4: Quality Education	51	36.51	
4.3.3 SDG 5: Women's economic opportunity	44	84.07	
4.3.4 SDG 7: Affordable and Clean Energy	33	78.54	●
4.3.5 SDG 11: Sustainable Cities and Communities	40	77.85	

NOTE: ● a strength and ○ a weakness.

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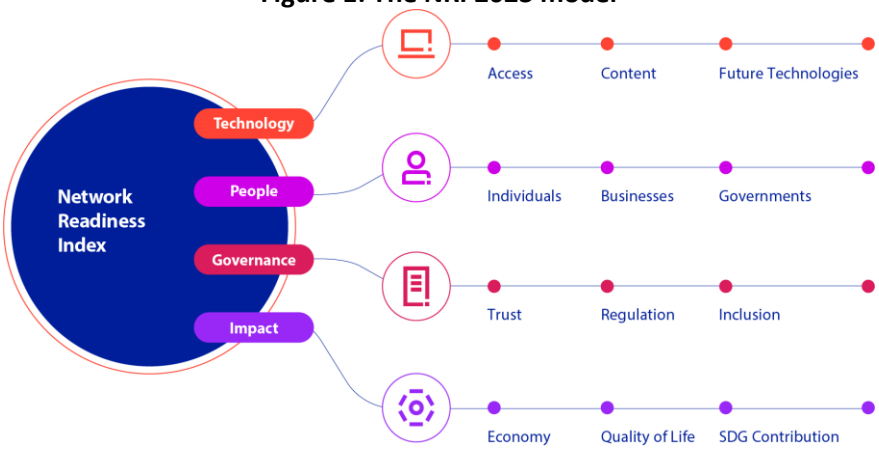
Uzbekistan

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

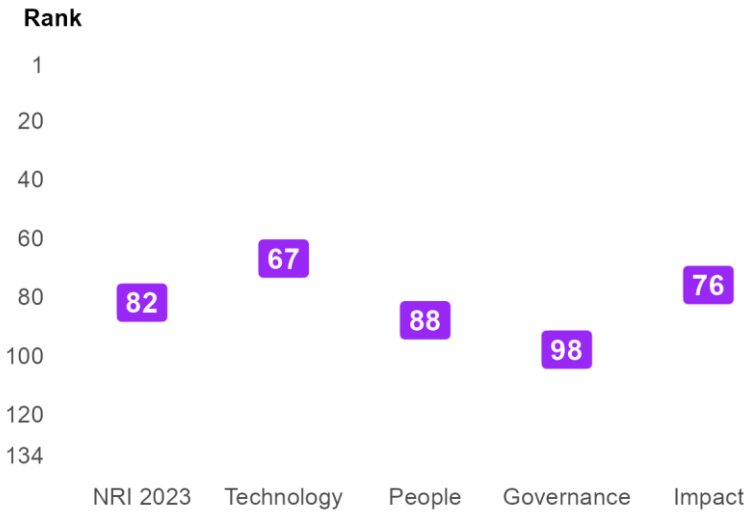
Figure 1: The NRI 2023 model



Global NRI position of Uzbekistan

Uzbekistan ranks 82nd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Technology. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Uzbekistan global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Uzbekistan relate to Quality of Life, Access and Inclusion, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Individuals and Regulation sub-pillars.

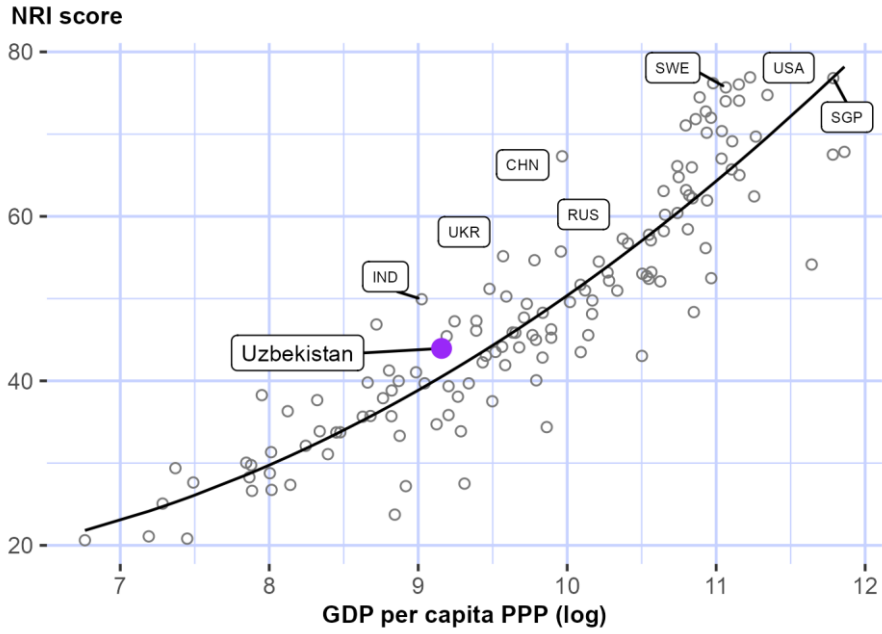
Table 1: Uzbekistan rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Quality of Life	34	SDG Contribution	84
Access	44	Businesses	85
Inclusion	54	Content	88
Governments	72	Economy	99
Future Technologies	73	Individuals	102
Trust	77	Regulation	127

NRI score and income

Figure 3 shows the position of Uzbekistan in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Uzbekistan is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Uzbekistan belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-CIS-is Russian Federation (RUS).

Performance against its income group and region

Lower-middle-income countries

Uzbekistan is ranked 10th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in nine of the twelve sub-pillars: Access, Content, Future Technologies, Businesses, Governments, Trust, Inclusion, Quality of Life and SDG Contribution.

CIS

Uzbekistan is ranked 5th within CIS (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Technology. With regard to sub-pillars, it outperforms the average in CIS in four of the twelve sub-pillars: Access, Future Technologies, Inclusion and Quality of Life.

Figure 4: Performance of Uzbekistan against its income group and region, overall and by pillar

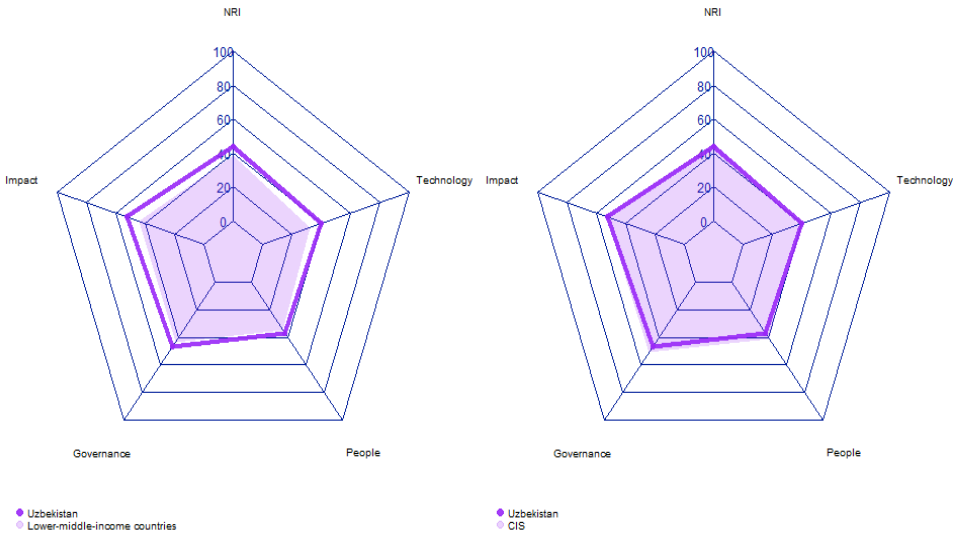


Table 2: Uzbekistan scores vs. averages of its income group and region, overall and by pillar

Dimension	Uzbekistan	Lower-middle-income countries	CIS
NRI	43.94	38.41	45.81
Technology	40.16	32.12	38.11
People	36.95	34.38	41.35
Governance	46.56	43.27	51.08
Impact	52.10	43.89	52.69

Strongest and weakest indicators

The indicators where Uzbekistan performs particularly well include 2.1.5 Adult literacy rate, 4.2.2 Freedom to make life choices, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.2 ICT regulatory environment, 4.3.4 SDG 7: Affordable and Clean Energy, and 4.1.2 High-tech exports.

Table 3: Highlight of Strengths and Opportunities for Uzbekistan

Strongest indicators	Rank	Weakest indicators	Rank
2.1.5 Adult literacy rate	2	3.2.4 E-commerce legislation	87
4.2.2 Freedom to make life choices	2	3.2.5 Privacy protection by law content	118
1.1.3 FTTH/building Internet subscriptions	10	4.1.2 High-tech exports	126
1.1.5 International Internet bandwidth	32	4.3.4 SDG 7: Affordable and Clean Energy	128
2.1.1 Mobile broadband internet traffic within the country	39	3.2.2 ICT regulatory environment	133
2.2.2 GERD financed by business enterprise	39		
3.3.2 Socioeconomic gap in use of digital payments	46		
3.3.5 Rural gap in use of digital payments	46		
4.2.1 Happiness	51		
4.3.5 SDG 11: Sustainable Cities and Communities	51		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Uzbekistan

Network Readiness Index Rank: 82 (out of 134) Score: 43.94

Pillar/sub-pillar	Rank	Score
A. Technology pillar	67	40.16
1st sub-pillar: Access	44	71.57
2nd sub-pillar: Content	88	18.26
3rd sub-pillar: Future Technologies	73	30.65
B. People pillar	88	36.95
1st sub-pillar: Individuals	102	36.00
2nd sub-pillar: Businesses	85	37.90
3rd sub-pillar: Governments	72	36.95

Pillar/sub-pillar	Rank	Score
C. Governance pillar	98	46.56
1st sub-pillar: Trust	77	36.48
2nd sub-pillar: Regulation	127	35.37
3rd sub-pillar: Inclusion	54	67.85
D. Impact pillar	76	52.10
1st sub-pillar: Economy	99	18.62
2nd sub-pillar: Quality of Life	34	77.96
3rd sub-pillar: SDG Contribution	84	59.71

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	67	40.16	
1st sub-pillar: Access	44	71.57	
1.1.1 Mobile tariffs	63	62.27	
1.1.2 Handset prices	96	33.89	
1.1.3 FTTH/building Internet subscriptions	10	61.17	•
1.1.4 Population covered by at least a 3G mobile network	87	98.66	
1.1.5 International Internet bandwidth	32	77.28	•
1.1.6 Internet access in schools	35	96.15	
2nd sub-pillar: Content	88	18.26	
1.2.1 GitHub commits	95	2.65	
1.2.2 Internet domain registrations	101	0.82	
1.2.3 Mobile apps development	70	64.51	
1.2.4 AI scientific publications	70	5.09	
3rd sub-pillar: Future Technologies	73	30.65	
1.3.1 Adoption of emerging technologies	68	46.04	
1.3.2 Investment in emerging technologies	NA	NA	

Indicator	Rank	Score	
C. Governance pillar	98	46.56	
1st sub-pillar: Trust	77	36.48	
3.1.1 Secure Internet servers	71	49.07	
3.1.2 Cybersecurity	77	70.60	
3.1.3 Online access to financial account	78	20.16	
3.1.4 Internet shopping	106	6.09	
2nd sub-pillar: Regulation	127	35.37	
3.2.1 Regulatory quality	102	36.47	
3.2.2 ICT regulatory environment	133	3.29	○
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	87	66.67	○
3.2.5 Privacy protection by law content	118	35.04	○
3rd sub-pillar: Inclusion	54	67.85	
3.3.1 E-Participation	55	60.46	
3.3.2 Socioeconomic gap in use of digital payments	46	84.97	•
3.3.3 Availability of local online content	NA	NA	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	80	15.27	
B. People pillar	88	36.95	
1st sub-pillar: Individuals	102	36.00	
2.1.1 Mobile broadband internet traffic within the country	39	19.19	●
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	113	12.32	
2.1.4 Tertiary enrollment	98	12.50	
2.1.5 Adult literacy rate	2	100.00	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	85	37.90	
2.2.1 Firms with website	96	19.29	
2.2.2 GERD financed by business enterprise	39	52.48	●
2.2.3 Knowledge intensive employment	NA	NA	
2.2.4 Annual investment in telecommunication services	60	78.48	
2.2.5 GERD performed by business enterprise	68	1.32	
3rd sub-pillar: Governments	72	36.95	
2.3.1 Government online services	57	71.71	
2.3.2 Publication and use of open data	NA	NA	
2.3.3 Government promotion of investment in emerging tech	NA	NA	
2.3.4 R&D expenditure by governments and higher education	100	2.20	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	92	55.16	
3.3.5 Rural gap in use of digital payments	46	70.79	●
D. Impact pillar	76	52.10	
1st sub-pillar: Economy	99	18.62	
4.1.1 High-tech and medium-high-tech manufacturing	50	29.88	
4.1.2 High-tech exports	126	0.31	○
4.1.3 PCT patent applications	97	0.12	
4.1.4 Domestic market size	56	56.26	
4.1.5 Prevalence of gig economy	NA	NA	
4.1.6 ICT services exports	92	6.52	
2nd sub-pillar: Quality of Life	34	77.96	
4.2.1 Happiness	51	68.14	●
4.2.2 Freedom to make life choices	2	97.27	●
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	78	68.46	
3rd sub-pillar: SDG Contribution	84	59.71	
4.3.1 SDG 3: Good Health and Well-Being	64	69.75	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	110	58.41	
4.3.4 SDG 7: Affordable and Clean Energy	128	36.99	○
4.3.5 SDG 11: Sustainable Cities and Communities	51	73.71	●

NOTE: ● a strength and ○ a weakness.

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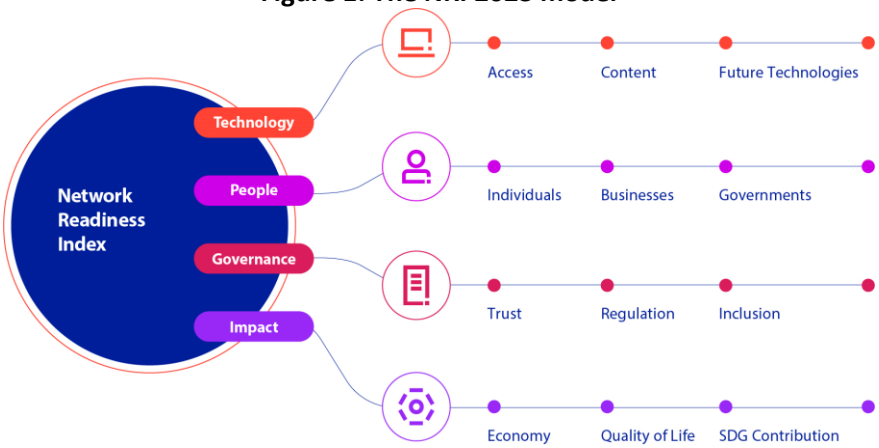
Venezuela (Bolivarian Republic of)

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

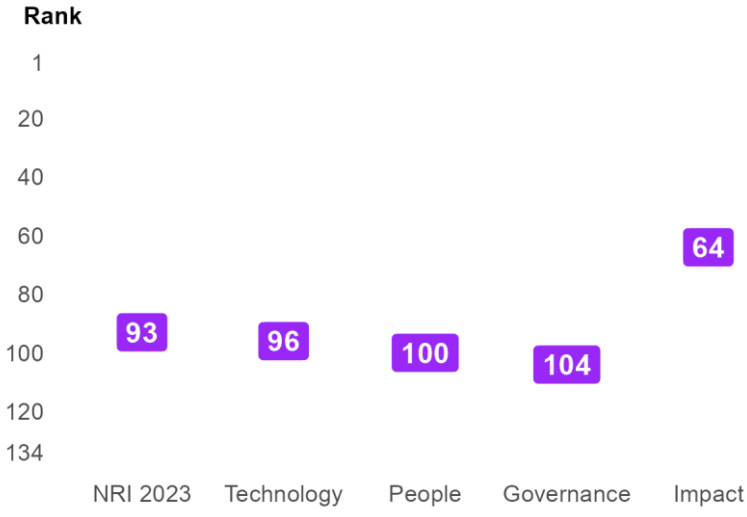
Figure 1: The NRI 2023 model



Global NRI position of Venezuela (Bolivarian Republic of)

Venezuela (Bolivarian Republic of) ranks 93rd out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Venezuela (Bolivarian Republic of) global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Venezuela (Bolivarian Republic of) relate to SDG Contribution, Individuals and Quality of Life, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Regulation and Governments sub-pillars.

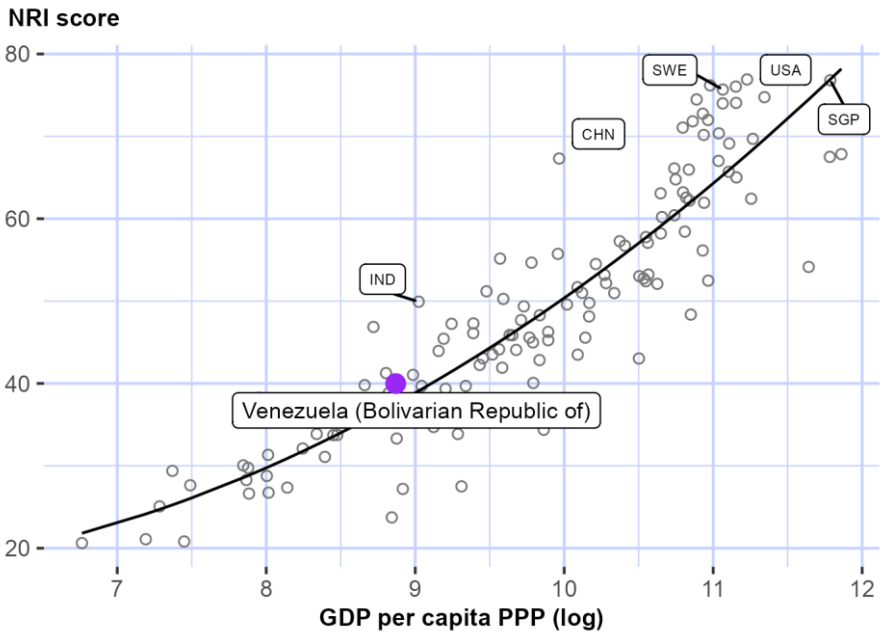
Table 1: Venezuela (Bolivarian Republic of) rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
SDG Contribution	39	Trust	89
Individuals	59	Businesses	90
Quality of Life	73	Content	99
Inclusion	82	Future Technologies	106
Access	85	Regulation	124
Economy	87	Governments	129

NRI score and income

Figure 3 shows the position of Venezuela (Bolivarian Republic of) in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Venezuela (Bolivarian Republic of) is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Venezuela (Bolivarian Republic of) belongs to the group of upper-middle-income countries, where the best performer is China (CHN). The top performer of its region-The Americas-is United States of America (USA).

Performance against its income group and region

Upper-middle-income countries

Venezuela (Bolivarian Republic of) is ranked 30th in the group of upper-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in one of the four pillars: Impact. At the sub-pillar level, it outperforms upper-middle-income countries in three of the twelve sub-pillars: Individuals, Quality of Life and SDG Contribution.

The Americas

Venezuela (Bolivarian Republic of) is ranked 16th within The Americas (Figure 4, right panel). It lags behind its region in each of the four pillars. With regard to sub-pillars, it outperforms the average in The Americas in two of the twelve sub-pillars: Individuals and SDG Contribution.

Figure 4: Performance of Venezuela (Bolivarian Republic of) against its income group and region, overall and by pillar

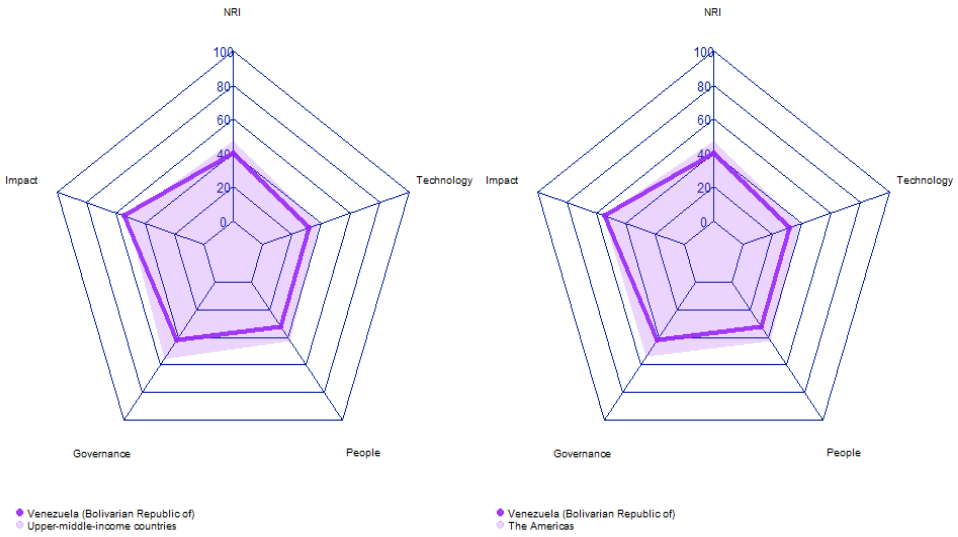


Table 2: Venezuela (Bolivarian Republic of) scores vs. averages of its income group and region, overall and by pillar

Dimension	Venezuela (Bolivarian Republic of)	Upper-middle-income countries	The Americas
NRI	39.98	47.35	47.41
Technology	31.51	38.48	38.24
People	32.14	42.59	42.35
Governance	42.11	55.90	54.12
Impact	54.17	52.43	54.93

Strongest and weakest indicators

The indicators where Venezuela (Bolivarian Republic of) performs particularly well include 4.3.4 SDG 7: Affordable and Clean Energy, 3.3.4 Gender gap in Internet use, and 2.1.5 Adult literacy rate (Table 3). By contrast, the economy's weakest indicators include 3.2.1 Regulatory quality, 1.3.2 Investment in emerging technologies, and 3.3.1 E-Participation.

Table 3: Highlight of Strengths and Opportunities for Venezuela (Bolivarian Republic of)

Strongest indicators	Rank	Weakest indicators	Rank
4.3.4 SDG 7: Affordable and Clean Energy	1	3.2.3 Regulation of emerging technologies	120
3.3.4 Gender gap in Internet use	5	2.3.3 Government promotion of investment in emerging technologies	126
2.1.5 Adult literacy rate	35	1.3.2 Investment in emerging technologies	131
3.1.3 Online access to financial account	37	3.3.1 E-Participation	131
1.1.5 International Internet bandwidth	42	3.2.1 Regulatory quality	134
3.3.5 Rural gap in use of digital payments	47		
2.3.4 R&D expenditure by governments and higher education	52		
3.3.2 Socioeconomic gap in use of digital payments	56		
4.2.1 Happiness	59		
1.3.4 Computer software spending	62		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Venezuela (Bolivarian Republic of)

Network Readiness Index — Rank: 93 (out of 134) — Score: 39.98

Pillar/sub-pillar	Rank	Score
A. Technology pillar	96	31.51
1st sub-pillar: Access	85	56.51
2nd sub-pillar: Content	99	16.24
3rd sub-pillar: Future Technologies	106	21.79
B. People pillar	100	32.14
1st sub-pillar: Individuals	59	48.80
2nd sub-pillar: Businesses	90	35.81
3rd sub-pillar: Governments	129	11.81

Pillar/sub-pillar	Rank	Score
C. Governance pillar	104	42.11
1st sub-pillar: Trust	89	34.03
2nd sub-pillar: Regulation	124	37.01
3rd sub-pillar: Inclusion	82	55.28
D. Impact pillar	64	54.17
1st sub-pillar: Economy	87	22.05
2nd sub-pillar: Quality of Life	73	66.81
3rd sub-pillar: SDG Contribution	39	73.65

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	96	31.51	
1st sub-pillar: Access	85	56.51	
1.1.1 Mobile tariffs	89	49.08	
1.1.2 Handset prices	82	40.01	
1.1.3 FTTH/building Internet subscriptions	79	24.42	
1.1.4 Population covered by at least a 3G mobile network	121	93.18	
1.1.5 International Internet bandwidth	42	75.85	●
1.1.6 Internet access in schools	NA	NA	
2nd sub-pillar: Content	99	16.24	
1.2.1 GitHub commits	89	3.18	
1.2.2 Internet domain registrations	92	1.39	
1.2.3 Mobile apps development	99	54.61	
1.2.4 AI scientific publications	66	5.77	
3rd sub-pillar: Future Technologies	106	21.79	
1.3.1 Adoption of emerging technologies	98	32.25	

Indicator	Rank	Score	
C. Governance pillar	104	42.11	
1st sub-pillar: Trust	89	34.03	
3.1.1 Secure Internet servers	92	42.03	
3.1.2 Cybersecurity	111	25.78	
3.1.3 Online access to financial account	37	46.32	●
3.1.4 Internet shopping	65	21.98	
2nd sub-pillar: Regulation	124	37.01	
3.2.1 Regulatory quality	134	0.00	○
3.2.2 ICT regulatory environment	83	76.24	
3.2.3 Regulation of emerging technologies	120	0.00	○
3.2.4 E-commerce legislation	87	66.67	
3.2.5 Privacy protection by law content	113	42.14	
3rd sub-pillar: Inclusion	82	55.28	
3.3.1 E-Participation	131	10.47	○
3.3.2 Socioeconomic gap in use of digital payments	56	81.21	●

Indicator	Rank	Score	
1.3.2 Investment in emerging technologies	131	10.75	○
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	62	22.38	●
B. People pillar	100	32.14	
1st sub-pillar: Individuals	59	48.80	
2.1.1 Mobile broadband internet traffic within the country	83	5.70	
2.1.2 ICT skills in the education system	70	45.59	
2.1.3 Use of virtual social networks	88	47.31	
2.1.4 Tertiary enrollment	NA	NA	
2.1.5 Adult literacy rate	35	96.59	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	90	35.81	
2.2.1 Firms with website	NA	NA	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	74	27.69	
2.2.4 Annual investment in telecommunication services	122	43.93	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	129	11.81	
2.3.1 Government online services	126	23.25	
2.3.2 Publication and use of open data	86	11.76	
2.3.3 Government promotion of investment in emerging tech	126	0.00	○
2.3.4 R&D expenditure by governments and higher education	52	12.22	●

Indicator	Rank	Score	
3.3.3 Availability of local online content	111	31.73	
3.3.4 Gender gap in Internet use	5	82.48	●
3.3.5 Rural gap in use of digital payments	47	70.54	●
D. Impact pillar	64	54.17	
1st sub-pillar: Economy	87	22.05	
4.1.1 High-tech and medium-high-tech manufacturing	NA	NA	
4.1.2 High-tech exports	NA	NA	
4.1.3 PCT patent applications	NA	NA	
4.1.4 Domestic market size	70	50.76	
4.1.5 Prevalence of gig economy	116	13.66	
4.1.6 ICT services exports	118	1.71	
2nd sub-pillar: Quality of Life	73	66.81	
4.2.1 Happiness	59	66.89	●
4.2.2 Freedom to make life choices	85	65.88	
4.2.3 Income inequality	NA	NA	
4.2.4 Healthy life expectancy at birth	82	67.65	
3rd sub-pillar: SDG Contribution	39	73.65	
4.3.1 SDG 3: Good Health and Well-Being	72	67.75	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	60	78.76	
4.3.4 SDG 7: Affordable and Clean Energy	1	100.00	●
4.3.5 SDG 11: Sustainable Cities and Communities	97	48.09	

NOTE: ● a strength and ○ a weakness.

Sources

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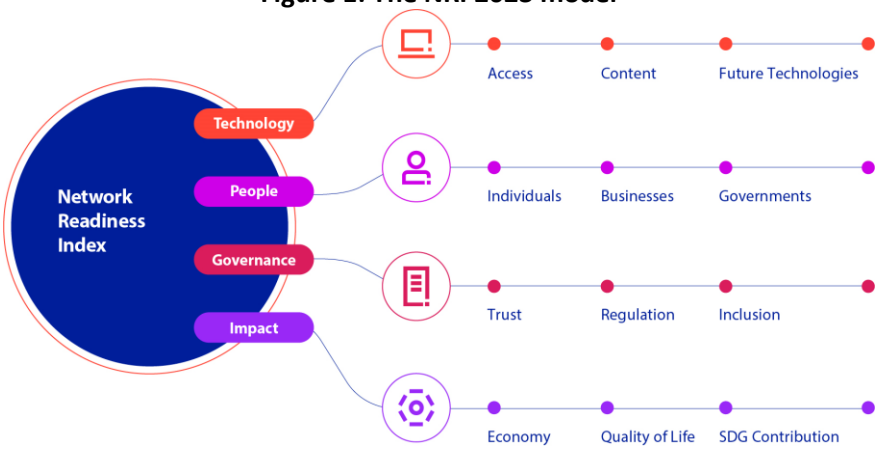
Viet Nam

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

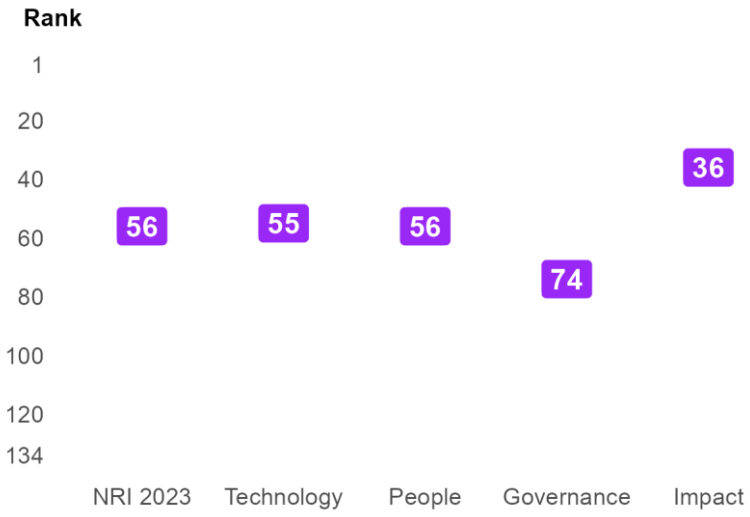
Figure 1: The NRI 2023 model



Global NRI position of Viet Nam

Viet Nam ranks 56th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Impact. The greatest scope for improvement, meanwhile, concerns Governance.

Figure 2: Viet Nam global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Viet Nam relate to Individuals, Economy and Access, among others (Table 1). More could be done, though, to improve the economy's performances in the Future Technologies, Inclusion and Regulation sub-pillars.

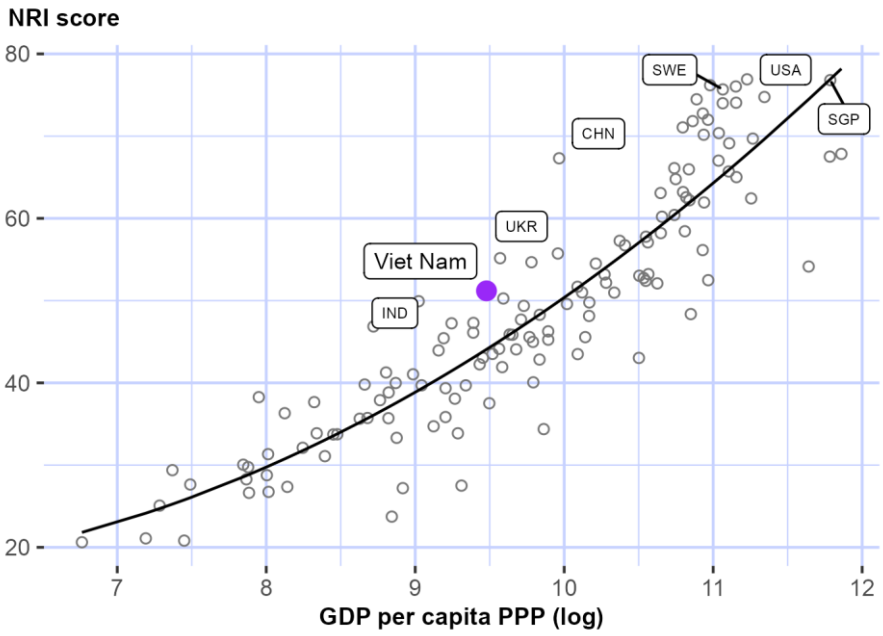
Table 1: Viet Nam rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Individuals	16	SDG Contribution	60
Economy	27	Businesses	67
Access	31	Governments	81
Quality of Life	36	Future Technologies	85
Content	51	Inclusion	92
Trust	57	Regulation	94

NRI score and income

Figure 3 shows the position of Viet Nam in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Viet Nam is well above the trend line, which suggests that it has a greater network readiness than would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Viet Nam belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Asia & Pacific-is Singapore (SGP).

Performance against its income group and region

Lower-middle-income countries

Viet Nam is ranked 2nd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score higher than the income group average in each of the four pillars. At the sub-pillar level, it has a higher score than the average of lower-middle-income countries in all of them.

Asia & Pacific

Viet Nam is ranked 10th within Asia & Pacific (Figure 4, right panel). It has a score above the regional average in one of the four pillars: Impact. With regard to sub-pillars, it outperforms the average in Asia & Pacific in five of the twelve sub-pillars: Access, Individuals, Economy, Quality of Life and SDG Contribution.

Figure 4: Performance of Viet Nam against its income group and region, overall and by pillar

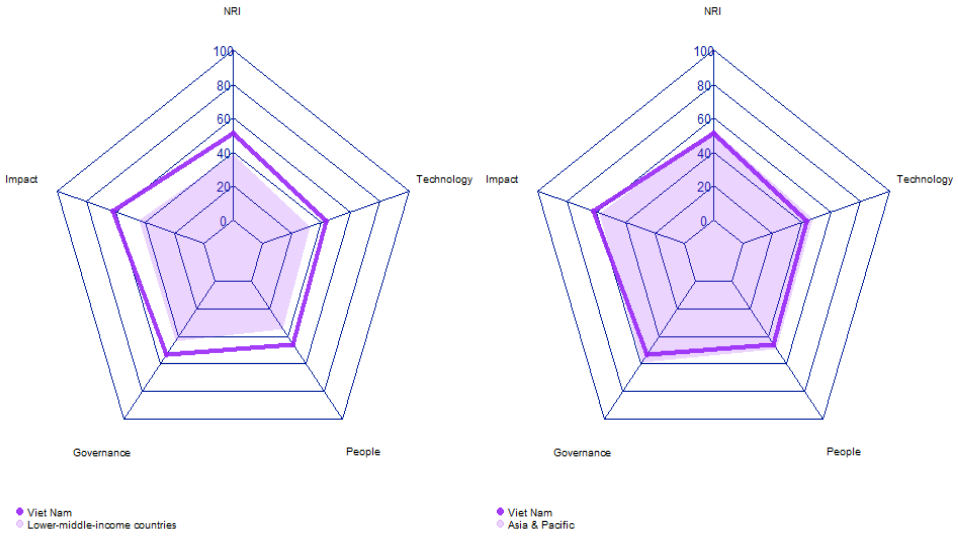


Table 2: Viet Nam scores vs. averages of its income group and region, overall and by pillar

Dimension	Viet Nam	Lower-middle-income countries	Asia & Pacific
NRI	51.19	38.41	53.28
Technology	43.47	32.12	47.34
People	46.18	34.38	48.95
Governance	53.42	43.27	59.22
Impact	61.67	43.89	57.62

Strongest and weakest indicators

The indicators where Viet Nam performs particularly well include 3.2.4 E-commerce legislation, 4.2.2 Freedom to make life choices, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 3.2.5 Privacy protection by law content, 3.3.2 Socioeconomic gap in use of digital payments, and 4.1.6 ICT services exports.

Table 3: Highlight of Strengths and Opportunities for Viet Nam

Strongest indicators	Rank	Weakest indicators	Rank
3.2.4 E-commerce legislation	1	3.3.5 Rural gap in use of digital payments	100
4.2.2 Freedom to make life choices	1	2.2.3 Knowledge intensive employment	112
1.1.3 FTTH/building Internet subscriptions	4	4.1.6 ICT services exports	115
4.1.2 High-tech exports	5	3.3.2 Socioeconomic gap in use of digital payments	120
1.2.3 Mobile apps development	7	3.2.5 Privacy protection by law content	122
2.2.2 GERD financed by business enterprise	9		
1.1.5 International Internet bandwidth	10		
2.1.1 Mobile broadband internet traffic within the country	12		
4.3.2 SDG 4: Quality Education	16		
4.1.5 Prevalence of gig economy	22		
4.1.4 Domestic market size	25		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Viet Nam

Network Readiness Index Rank: 56 (out of 134) Score: 51.19

Pillar/sub-pillar	Rank	Score
A. Technology pillar	55	43.47
1st sub-pillar: Access	31	74.19
2nd sub-pillar: Content	51	27.93
3rd sub-pillar: Future Technologies	85	28.28
B. People pillar	56	46.18
1st sub-pillar: Individuals	16	59.27
2nd sub-pillar: Businesses	67	44.95
3rd sub-pillar: Governments	81	34.33

Pillar/sub-pillar	Rank	Score
C. Governance pillar	74	53.42
1st sub-pillar: Trust	57	52.01
2nd sub-pillar: Regulation	94	57.52
3rd sub-pillar: Inclusion	92	50.74
D. Impact pillar	36	61.67
1st sub-pillar: Economy	27	41.75
2nd sub-pillar: Quality of Life	36	77.29
3rd sub-pillar: SDG Contribution	60	65.98

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	55	43.47	
1st sub-pillar: Access	31	74.19	
1.1.1 Mobile tariffs	52	69.30	
1.1.2 Handset prices	99	32.85	
1.1.3 FTTH/building Internet subscriptions	4	72.53	•
1.1.4 Population covered by at least a 3G mobile network	38	99.95	
1.1.5 International Internet bandwidth	10	86.70	•
1.1.6 Internet access in schools	40	83.80	
2nd sub-pillar: Content	51	27.93	
1.2.1 GitHub commits	58	8.53	
1.2.2 Internet domain registrations	74	2.56	
1.2.3 Mobile apps development	7	82.88	•
1.2.4 AI scientific publications	31	17.77	
3rd sub-pillar: Future Technologies	85	28.28	
1.3.1 Adoption of emerging technologies	56	50.09	
1.3.2 Investment in emerging technologies	69	38.50	

Indicator	Rank	Score	
C. Governance pillar	74	53.42	
1st sub-pillar: Trust	57	52.01	
3.1.1 Secure Internet servers	53	64.22	
3.1.2 Cybersecurity	32	94.49	
3.1.3 Online access to financial account	65	28.29	
3.1.4 Internet shopping	67	21.05	
2nd sub-pillar: Regulation	94	57.52	
3.2.1 Regulatory quality	92	40.61	
3.2.2 ICT regulatory environment	102	66.82	
3.2.3 Regulation of emerging technologies	49	53.25	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	122	26.91	○
3rd sub-pillar: Inclusion	92	50.74	
3.3.1 E-Participation	71	52.33	
3.3.2 Socioeconomic gap in use of digital payments	120	38.65	○
3.3.3 Availability of local online content	64	61.06	

Indicator	Rank	Score	
1.3.3 Robot density	42	2.56	
1.3.4 Computer software spending	64	21.97	
B. People pillar	56	46.18	
1st sub-pillar: Individuals	16	59.27	
2.1.1 Mobile broadband internet traffic within the country	12	44.81	●
2.1.2 ICT skills in the education system	29	68.53	
2.1.3 Use of virtual social networks	63	66.76	
2.1.4 Tertiary enrollment	82	22.06	
2.1.5 Adult literacy rate	44	94.20	
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	67	44.95	
2.2.1 Firms with website	68	45.17	
2.2.2 GERD financed by business enterprise	9	79.32	●
2.2.3 Knowledge intensive employment	112	8.23	○
2.2.4 Annual investment in telecommunication services	39	82.19	
2.2.5 GERD performed by business enterprise	46	9.84	
3rd sub-pillar: Governments	81	34.33	
2.3.1 Government online services	75	61.14	
2.3.2 Publication and use of open data	79	14.71	
2.3.3 Government promotion of investment in emerging tech	31	54.14	
2.3.4 R&D expenditure by governments and higher education	66	7.33	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	85	59.41	
3.3.5 Rural gap in use of digital payments	100	42.27	○
D. Impact pillar	36	61.67	
1st sub-pillar: Economy	27	41.75	
4.1.1 High-tech and medium-high-tech manufacturing	38	36.54	
4.1.2 High-tech exports	5	75.48	●
4.1.3 PCT patent applications	86	0.86	
4.1.4 Domestic market size	25	69.51	●
4.1.5 Prevalence of gig economy	22	65.99	●
4.1.6 ICT services exports	115	2.11	○
2nd sub-pillar: Quality of Life	36	77.29	
4.2.1 Happiness	39	72.80	
4.2.2 Freedom to make life choices	1	100.00	●
4.2.3 Income inequality	59	65.83	
4.2.4 Healthy life expectancy at birth	74	70.53	
3rd sub-pillar: SDG Contribution	60	65.98	
4.3.1 SDG 3: Good Health and Well-Being	74	67.61	
4.3.2 SDG 4: Quality Education	16	68.54	●
4.3.3 SDG 5: Women's economic opportunity	48	83.19	
4.3.4 SDG 7: Affordable and Clean Energy	92	65.17	
4.3.5 SDG 11: Sustainable Cities and Communities	102	45.39	

NOTE: ● a strength and ○ a weakness.

Sources

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Zambia

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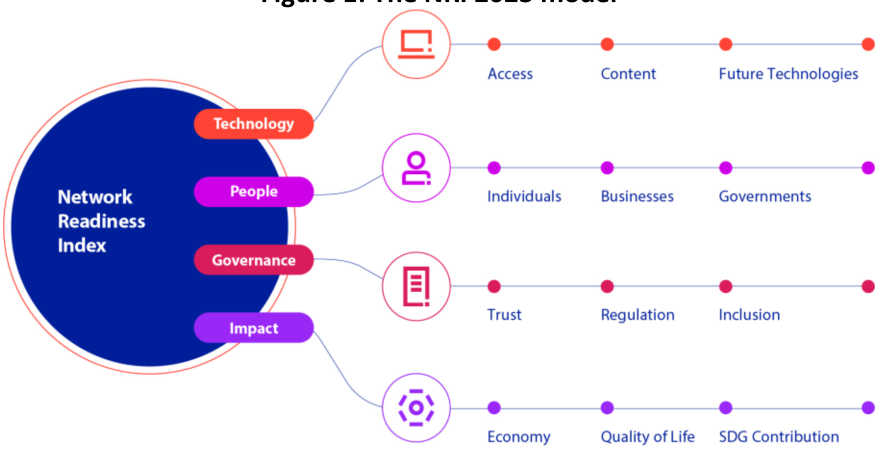
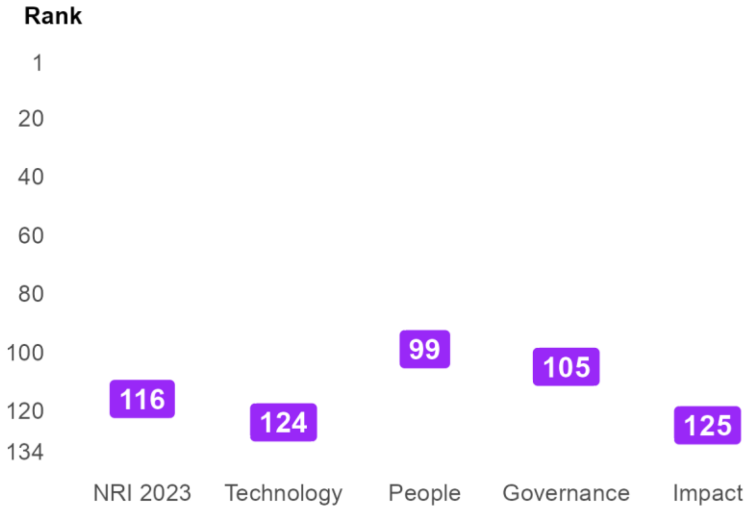
Figure 1: The NRI 2023 model



Global NRI position of Zambia

Zambia ranks 116th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to People. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Zambia global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Zambia relate to Businesses, Trust and Regulation, among others (Table 1). More could be done, though, to improve the economy's performances in the Economy, Content and Quality of Life sub-pillars.

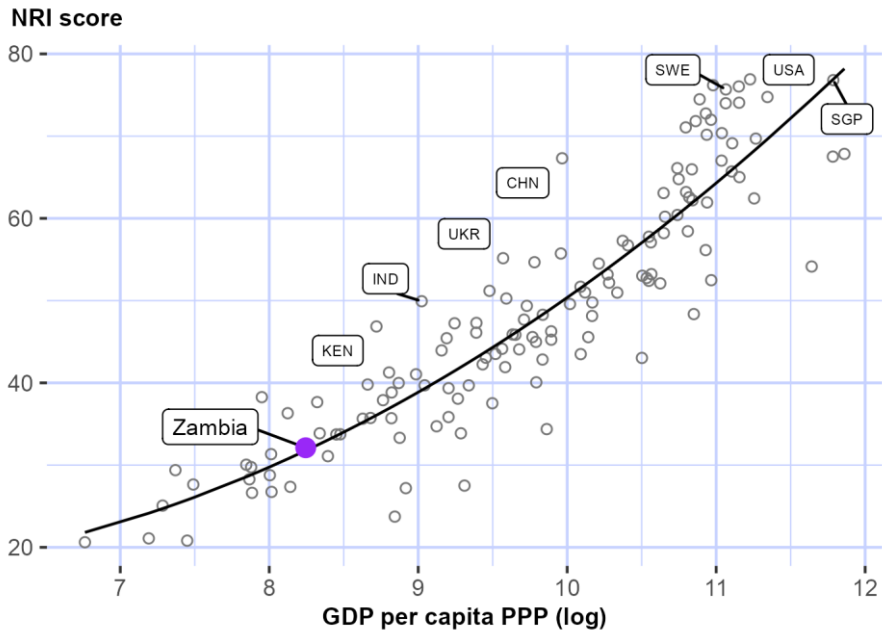
Table 1: Zambia rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	55	Governments	114
Trust	83	Access	119
Regulation	99	Inclusion	121
SDG Contribution	100	Economy	124
Individuals	108	Content	127
Future Technologies	112	Quality of Life	128

NRI score and income

Figure 3 shows the position of Zambia in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Zambia is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Zambia belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Zambia is ranked 33rd in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in three of the twelve sub-pillars: Businesses, Trust and Regulation.

Africa

Zambia is ranked 14th within Africa (Figure 4, right panel). It has a score above the regional average in two of the four pillars: People and Governance. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Individuals, Businesses, Trust, Regulation and SDG Contribution.

Figure 4: Performance of Zambia against its income group and region, overall and by pillar

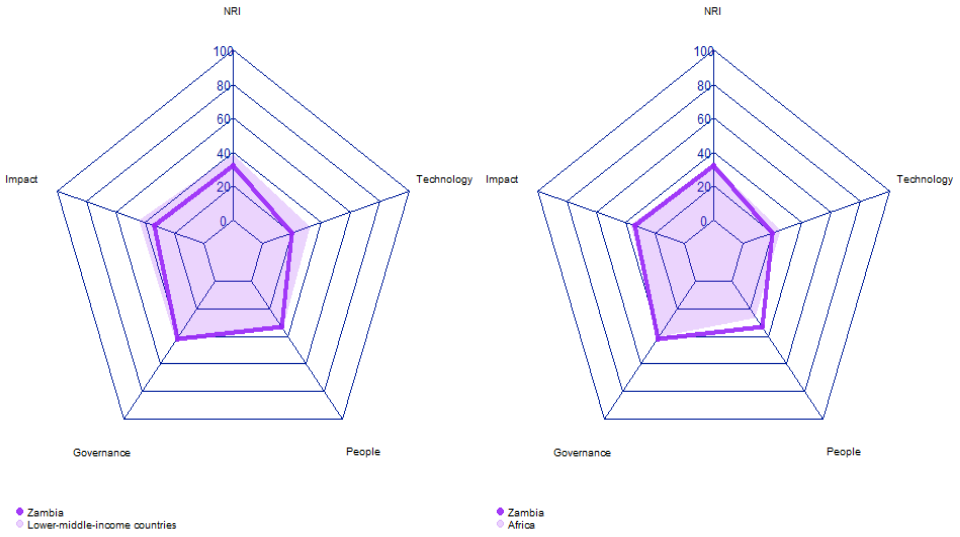


Table 2: Zambia scores vs. averages of its income group and region, overall and by pillar

Dimension	Zambia	Lower-middle-income countries	Africa
NRI	32.11	38.41	32.14
Technology	20.20	32.12	25.14
People	33.12	34.38	26.19
Governance	41.54	43.27	40.44
Impact	33.56	43.89	36.77

Strongest and weakest indicators

The indicators where Zambia performs particularly well include 3.2.4 E-commerce legislation, 3.1.3 Online access to financial account, and 2.2.1 Firms with website (Table 3). By contrast, the economy's weakest indicators include 4.2.1 Happiness, 2.1.4 Tertiary enrollment, and 4.2.3 Income inequality.

Table 3: Highlight of Strengths and Opportunities for Zambia

Strongest indicators	Rank
3.2.4 E-commerce legislation	1
3.1.3 Online access to financial account	45
2.2.1 Firms with website	52
3.2.5 Privacy protection by law content	56
4.2.2 Freedom to make life choices	59
2.1.5 Adult literacy rate	70
4.3.3 SDG 5: Women's economic opportunity	76
4.3.5 SDG 11: Sustainable Cities and Communities	78
3.1.2 Cybersecurity	80
1.1.4 Population covered by at least a 3G mobile network	91

Weakest indicators	Rank
4.1.3 PCT patent applications	99
2.3.2 Publication and use of open data	100
4.2.3 Income inequality	114
2.1.4 Tertiary enrollment	128
4.2.1 Happiness	129

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Zambia

Network Readiness Index Rank: 116 (out of 134) Score: 32.11

Pillar/sub-pillar	Rank	Score
A. Technology pillar	124	20.20
1st sub-pillar: Access	119	40.23
2nd sub-pillar: Content	127	0.86
3rd sub-pillar: Future Technologies	112	19.51
B. People pillar	99	33.12
1st sub-pillar: Individuals	108	31.41
2nd sub-pillar: Businesses	55	48.29
3rd sub-pillar: Governments	114	19.67

Pillar/sub-pillar	Rank	Score
C. Governance pillar	105	41.54
1st sub-pillar: Trust	83	35.00
2nd sub-pillar: Regulation	99	56.68
3rd sub-pillar: Inclusion	121	32.94
D. Impact pillar	125	33.56
1st sub-pillar: Economy	124	12.62
2nd sub-pillar: Quality of Life	128	34.67
3rd sub-pillar: SDG Contribution	100	53.40

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	124	20.20	
1st sub-pillar: Access	119	40.23	
1.1.1 Mobile tariffs	110	32.15	
1.1.2 Handset prices	98	33.02	
1.1.3 FTTH/building Internet subscriptions	107	10.00	
1.1.4 Population covered by at least a 3G mobile network	91	98.48	•
1.1.5 International Internet bandwidth	112	61.92	
1.1.6 Internet access in schools	77	5.81	
2nd sub-pillar: Content	127	0.86	
1.2.1 GitHub commits	119	0.65	
1.2.2 Internet domain registrations	125	0.12	
1.2.3 Mobile apps development	NA	NA	
1.2.4 AI scientific publications	90	1.80	
3rd sub-pillar: Future Technologies	112	19.51	
1.3.1 Adoption of emerging technologies	114	25.44	
1.3.2 Investment in emerging technologies	93	31.25	

Indicator	Rank	Score	
C. Governance pillar	105	41.54	
1st sub-pillar: Trust	83	35.00	
3.1.1 Secure Internet servers	116	29.25	
3.1.2 Cybersecurity	80	68.33	•
3.1.3 Online access to financial account	45	40.46	•
3.1.4 Internet shopping	122	1.97	
2nd sub-pillar: Regulation	99	56.68	
3.2.1 Regulatory quality	100	37.11	
3.2.2 ICT regulatory environment	96	69.06	
3.2.3 Regulation of emerging technologies	112	7.79	
3.2.4 E-commerce legislation	1	100.00	•
3.2.5 Privacy protection by law content	56	69.44	•
3rd sub-pillar: Inclusion	121	32.94	
3.3.1 E-Participation	90	36.05	
3.3.2 Socioeconomic gap in use of digital payments	122	36.39	
3.3.3 Availability of local online content	126	21.39	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	117	1.83	
B. People pillar	99	33.12	
1st sub-pillar: Individuals	108	31.41	
2.1.1 Mobile broadband internet traffic within the country	NA	NA	
2.1.2 ICT skills in the education system	NA	NA	
2.1.3 Use of virtual social networks	117	10.36	
2.1.4 Tertiary enrollment	128	0.94	○
2.1.5 Adult literacy rate	70	82.93	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	55	48.29	
2.2.1 Firms with website	52	57.19	●
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	104	12.83	
2.2.4 Annual investment in telecommunication services	89	74.86	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	114	19.67	
2.3.1 Government online services	108	38.26	
2.3.2 Publication and use of open data	100	2.94	○
2.3.3 Government promotion of investment in emerging tech	108	17.80	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	94	47.05	
3.3.5 Rural gap in use of digital payments	116	23.83	
D. Impact pillar	125	33.56	
1st sub-pillar: Economy	124	12.62	
4.1.1 High-tech and medium-high-tech manufacturing	89	10.77	
4.1.2 High-tech exports	106	2.22	
4.1.3 PCT patent applications	99	0.00	○
4.1.4 Domestic market size	94	41.54	
4.1.5 Prevalence of gig economy	112	18.90	
4.1.6 ICT services exports	113	2.32	
2nd sub-pillar: Quality of Life	128	34.67	
4.2.1 Happiness	129	13.57	○
4.2.2 Freedom to make life choices	59	76.23	●
4.2.3 Income inequality	114	14.82	○
4.2.4 Healthy life expectancy at birth	124	34.04	
3rd sub-pillar: SDG Contribution	100	53.40	
4.3.1 SDG 3: Good Health and Well-Being	105	43.17	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	76	73.45	●
4.3.4 SDG 7: Affordable and Clean Energy	127	38.01	
4.3.5 SDG 11: Sustainable Cities and Communities	78	58.98	●

NOTE: ● a strength and ○ a weakness.

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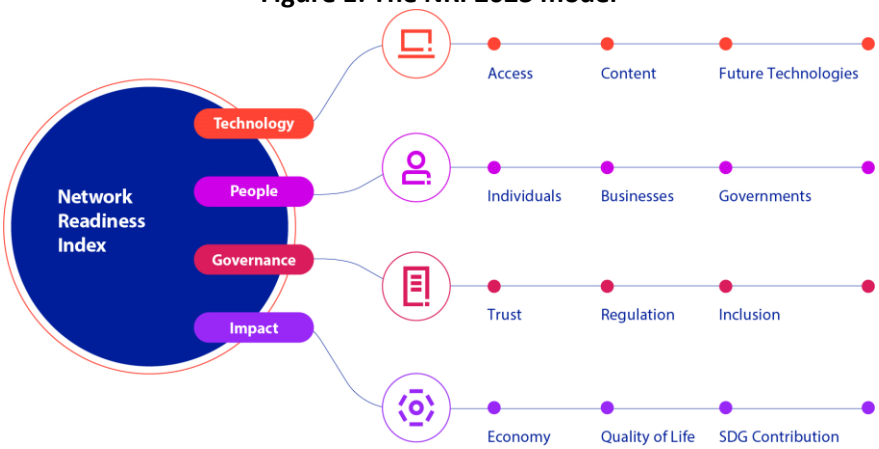
Zimbabwe

The Network Readiness Index (NRI) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2023 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Each of these pillars is itself comprised of three sub-pillars (see Figure 1) that have been populated by a total of 58 variables.

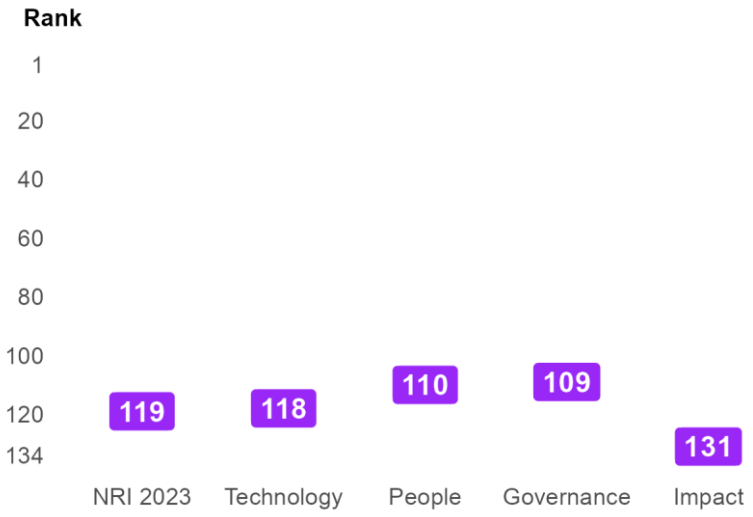
Figure 1: The NRI 2023 model



Global NRI position of Zimbabwe

Zimbabwe ranks 119th out of the 134 economies included in the NRI 2023 (Figure 2). Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact.

Figure 2: Zimbabwe global ranking, overall and by pillar



Performance at sub-pillar level

When it comes to sub-pillars, the strongest showings of Zimbabwe relate to Businesses, Inclusion and Trust, among others (Table 1). More could be done, though, to improve the economy's performances in the Governments, Economy and Quality of Life sub-pillars.

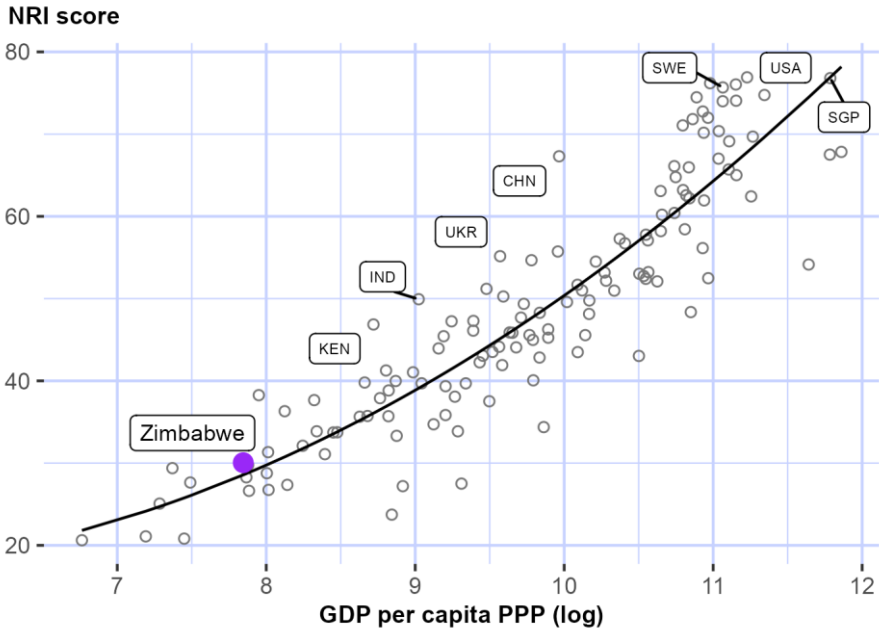
Table 1: Zimbabwe rankings by sub-pillar

Sub-pillar	Rank	Sub-pillar	Rank
Businesses	82	Access	120
Inclusion	96	Regulation	121
Trust	102	SDG Contribution	122
Content	107	Governments	124
Individuals	110	Economy	129
Future Technologies	114	Quality of Life	130

NRI score and income

Figure 3 shows the position of Zimbabwe in terms of both NRI score and GDP per capita (PPP). The trend line shows the expected NRI score given an economy's income level. As can be seen, Zimbabwe is slightly above the trend line, which suggests that its network readiness is more or less in line with what would be expected given its income level.

Figure 3: NRI score and GDP per capita PPP (log)



Note: USA = United States (rank: 1), SGP = Singapore (rank: 2), FIN = Finland (3), NLD = Netherlands (4), SWE = Sweden (5), CHN = China (20), IND = India (61). Zimbabwe belongs to the group of lower-middle-income countries, where the best performer is Ukraine (UKR). The top performer of its region-Africa-is Kenya (KEN).

Performance against its income group and region

Lower-middle-income countries

Zimbabwe is ranked 35th in the group of lower-middle-income countries (Figure 4, left panel). In terms of pillar performance, it has a score below the income group average in each of the four pillars. At the sub-pillar level, it outperforms lower-middle-income countries in two of the twelve sub-pillars: Businesses and Inclusion.

Africa

Zimbabwe is ranked 17th within Africa (Figure 4, right panel). It has a score above the regional average in one of the four pillars: People. With regard to sub-pillars, it outperforms the average in Africa in five of the twelve sub-pillars: Content, Individuals, Businesses, Trust and Inclusion.

Figure 4: Performance of Zimbabwe against its income group and region, overall and by pillar

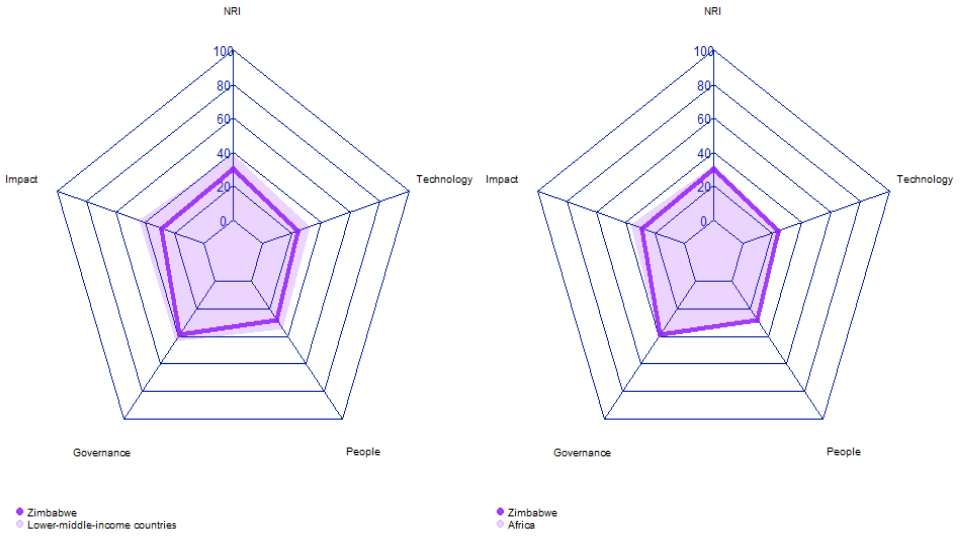


Table 2: Zimbabwe scores vs. averages of its income group and region, overall and by pillar

Dimension	Zimbabwe	Lower-middle-income countries	Africa
NRI	30.05	38.41	32.14
Technology	24.34	32.12	25.14
People	28.27	34.38	26.19
Governance	38.88	43.27	40.44
Impact	28.71	43.89	36.77

Strongest and weakest indicators

The indicators where Zimbabwe performs particularly well include 3.3.4 Gender gap in Internet use, 3.1.3 Online access to financial account, and 1.1.3 FTTH/building Internet subscriptions (Table 3). By contrast, the economy's weakest indicators include 1.1.1 Mobile tariffs, 3.2.1 Regulatory quality, and 4.3.4 SDG 7: Affordable and Clean Energy.

Table 3: Highlight of Strengths and Opportunities for Zimbabwe

Strongest indicators	Rank	Weakest indicators	Rank
3.3.4 Gender gap in Internet use	9	2.3.2 Publication and use of open data	103
3.1.3 Online access to financial account	38	4.1.5 Prevalence of gig economy	126
1.1.3 FTTH/building Internet subscriptions	52	1.3.2 Investment in emerging technologies	128
4.3.3 SDG 5: Women's economic opportunity	55	4.2.4 Healthy life expectancy at birth	129
2.1.2 ICT skills in the education system	59	3.2.1 Regulatory quality	131
1.2.4 AI scientific publications	65	4.3.4 SDG 7: Affordable and Clean Energy	131
2.1.5 Adult literacy rate	66	1.1.1 Mobile tariffs	133
1.3.4 Computer software spending	70		
4.1.3 PCT patent applications	73		
3.3.5 Rural gap in use of digital payments	78		

Note: For the full list of strengths and weaknesses, see At-A-Glance table.

NRI 2023 At-A-Glance: Zimbabwe

Network Readiness Index Rank: 119 (out of 134) Score: 30.05

Pillar/sub-pillar	Rank	Score
A. Technology pillar	118	24.34
1st sub-pillar: Access	120	40.21
2nd sub-pillar: Content	107	13.60
3rd sub-pillar: Future Technologies	114	19.20
B. People pillar	110	28.27
1st sub-pillar: Individuals	110	30.12
2nd sub-pillar: Businesses	82	39.92
3rd sub-pillar: Governments	124	14.77

Pillar/sub-pillar	Rank	Score
C. Governance pillar	109	38.88
1st sub-pillar: Trust	102	28.93
2nd sub-pillar: Regulation	121	39.45
3rd sub-pillar: Inclusion	96	48.26
D. Impact pillar	131	28.71
1st sub-pillar: Economy	129	10.71
2nd sub-pillar: Quality of Life	130	31.30
3rd sub-pillar: SDG Contribution	122	44.12

The Network Readiness Index in detail

Indicator	Rank	Score	
A. Technology pillar	118	24.34	
1st sub-pillar: Access	120	40.21	
1.1.1 Mobile tariffs	133	4.93	○
1.1.2 Handset prices	119	21.17	
1.1.3 FTTH/building Internet subscriptions	52	32.45	●
1.1.4 Population covered by at least a 3G mobile network	119	94.19	
1.1.5 International Internet bandwidth	96	65.96	
1.1.6 Internet access in schools	67	22.55	
2nd sub-pillar: Content	107	13.60	
1.2.1 GitHub commits	114	0.89	
1.2.2 Internet domain registrations	97	1.02	
1.2.3 Mobile apps development	107	46.47	
1.2.4 AI scientific publications	65	6.01	●
3rd sub-pillar: Future Technologies	114	19.20	
1.3.1 Adoption of emerging technologies	111	26.03	
1.3.2 Investment in emerging technologies	128	12.25	○

Indicator	Rank	Score	
C. Governance pillar	109	38.88	
1st sub-pillar: Trust	102	28.93	
3.1.1 Secure Internet servers	109	33.94	
3.1.2 Cybersecurity	102	35.37	
3.1.3 Online access to financial account	38	44.27	●
3.1.4 Internet shopping	121	2.11	
2nd sub-pillar: Regulation	121	39.45	
3.2.1 Regulatory quality	131	18.60	○
3.2.2 ICT regulatory environment	106	65.88	
3.2.3 Regulation of emerging technologies	NA	NA	
3.2.4 E-commerce legislation	121	33.33	
3.2.5 Privacy protection by law content	116	39.98	
3rd sub-pillar: Inclusion	96	48.26	
3.3.1 E-Participation	122	20.94	
3.3.2 Socioeconomic gap in use of digital payments	87	60.15	
3.3.3 Availability of local online content	116	27.64	

Indicator	Rank	Score	
1.3.3 Robot density	NA	NA	
1.3.4 Computer software spending	70	19.32	●
B. People pillar	110	28.27	
1st sub-pillar: Individuals	110	30.12	
2.1.1 Mobile broadband internet traffic within the country	101	1.95	
2.1.2 ICT skills in the education system	59	52.32	●
2.1.3 Use of virtual social networks	123	6.26	
2.1.4 Tertiary enrollment	116	4.15	
2.1.5 Adult literacy rate	66	85.94	●
2.1.6 AI talent concentration	NA	NA	
2nd sub-pillar: Businesses	82	39.92	
2.2.1 Firms with website	87	33.73	
2.2.2 GERD financed by business enterprise	NA	NA	
2.2.3 Knowledge intensive employment	108	10.87	
2.2.4 Annual investment in telecommunication services	85	75.17	
2.2.5 GERD performed by business enterprise	NA	NA	
3rd sub-pillar: Governments	124	14.77	
2.3.1 Government online services	115	31.97	
2.3.2 Publication and use of open data	103	1.47	○
2.3.3 Government promotion of investment in emerging tech	115	10.87	
2.3.4 R&D expenditure by governments and higher education	NA	NA	

Indicator	Rank	Score	
3.3.4 Gender gap in Internet use	9	76.12	●
3.3.5 Rural gap in use of digital payments	78	56.47	●
D. Impact pillar	131	28.71	
1st sub-pillar: Economy	129	10.71	
4.1.1 High-tech and medium-high-tech manufacturing	69	20.35	
4.1.2 High-tech exports	90	4.08	
4.1.3 PCT patent applications	73	2.02	●
4.1.4 Domestic market size	118	34.91	
4.1.5 Prevalence of gig economy	126	0.00	○
4.1.6 ICT services exports	106	2.89	
2nd sub-pillar: Quality of Life	130	31.30	
4.2.1 Happiness	126	17.55	
4.2.2 Freedom to make life choices	117	46.17	
4.2.3 Income inequality	106	31.91	
4.2.4 Healthy life expectancy at birth	129	29.56	○
3rd sub-pillar: SDG Contribution	122	44.12	
4.3.1 SDG 3: Good Health and Well-Being	104	43.46	
4.3.2 SDG 4: Quality Education	NA	NA	
4.3.3 SDG 5: Women's economic opportunity	55	81.42	●
4.3.4 SDG 7: Affordable and Clean Energy	131	20.38	○
4.3.5 SDG 11: Sustainable Cities and Communities	122	31.24	

NOTE: ● a strength and ○ a weakness.

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